2012 ANNUAL MONITORING NETWORK PLAN FOR THE NORTH CAROLINA DIVISION OF AIR QUALITY

VOLUME 2

SITE DESCRIPTIONS BY DIVISION OF AIR QUALITY REGIONAL OFFICE AND METROPOLITAN STATISTICAL AREA

C. THE MOORESVILLE MONITORING REGION

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C. The Mooresville Monitoring Region

The Mooresville Monitoring Region, shown in Figure C1, consists of four areas: (1) the eastern portion of the Hickory-Lenoir-Morganton MSA (Alexander and Catawba Counties), (2) the Southwestern Piedmont (Cleveland and Lincoln Counties), (3) the Charlotte MSA (Cabarrus, Gaston, Mecklenburg, and Union Counties), and (4) the Southern Corridor between Charlotte and Winston-Salem (Iredell, Rowan and Stanly Counties).

Figure C1. The Mooresville Monitoring Region
The red dots show the approximate locations of most monitoring sites in this region

(1) Hickory-Lenoir-Morganton MSA

The Hickory-Lenoir-Morganton MSA consists of four counties: Alexander, Burke, Caldwell, and Catawba County. The major metropolitan areas are the Cities of Hickory, Lenoir, and Morganton. The NC-DAQ currently operates three monitoring sites in the Hickory-Lenoir-Morganton MSA. These sites are located at Taylorsville (Alexander County), Lenoir (Caldwell County), and the Hickory Water Tower (Catawba County). The locations of these monitors are shown in Figure C2.

A is the Lenoir ozone monitoring site; B is the Waggin Trail ozone monitoring site in Taylorsville; C is the Hickory particle monitoring site. Circles around the monitors show the scale of representation (Lenoir is regional - 50 Km plus; Waggin Trail is urban - 4 to 50 Km; Hickory is neighborhood – 0.5 to 4 Km).

Figure C2. Locations of Monitors in the Hickory-Lenoir-Morganton MSA

At the **Waggin Trail** site in Taylorsville the NC-DAQ operates a seasonal ozone monitor. The site is shown in Figure C3. Table C1 summarizes monitoring information for the site. Views looking north, northeast, east, southeast, south, southwest, west and northwest are shown in Figure C4 through Figure C11. The Waggin Trail site was established as the downwind site for the Hickory-Lenoir-Morganton MSA. This site is the design value monitor for the MSA. 40 CFR 58 Appendix D requires the Hickory-Lenoir-Morganton MSA to have two ozone monitoring sites.

Figure C3. Waggin Trail Ozone Monitoring Site (37-003-0004)

Table C1. Site Table for Waggin Trail

Site Name:	Waggin Trail			**AQS Site Identification Number:**	37-003-0004
Location:	106 Waggin' Trail, Taylorsville, North Carolina				
MSA:	Hickory-Lenoir-Morganton, NC			**MSA #:**	3290
Latitude	35.928999	**Longitude**	-81.189758	**Datum:**	WGS84
Elevation	339 meters				

Parameter Name	**Method**	**Method Reference ID**	**Sample Duration**	**Sampling Schedule**
Ozone	Instrumental With Ultra Violet Photometry (047)	EQOA-0880-047	1-Hour	April 1 to October 31

Date Monitor Established:	Ozone				August 11, 2004
Nearest Road:	Waggin' Trail	**Traffic Count:**	None	**Year of Count:**	None

Parameter Name	**Distance to Road**	**Direction to Road**	**Monitor Type**	**Statement of Purpose**
Ozone	14 meters	West	SLAMS	Real-time AQI reporting and forecasting. Compliance w/NAAQS.

Parameter Name	**Monitoring Objective**	**Scale**	**Suitable for Comparison to NAAQS**	**Proposal to Move or Change**
Ozone	General Background	Urban	Yes	None

Parameter Name	**Meets Part 58 Appendix A Requirements**	**Meets Part 58 Appendix C Requirements**	**Meets Part 58 Appendix D Requirements**	**Meets Part 58 Appendix E Requirements**
Ozone	Yes	Yes	Yes	Yes

Parameter Name	**Probe Height (m)**	**Distance to Support**	**Distance to Trees**	**Obstacles**
Ozone	4.7	1 meter	>20 meters	None

Figure C4. Looking North from the Waggin Trail Site

Figure C5. Looking Northwest from the Waggin Trail Site

Figure C6. Looking Northeast from the Waggin Trail Site

Figure C7. Looking East from the Waggin Trail Site

Figure C8. Looking Southeast from the Waggin Trail Site

Figure C9. Looking West from the Waggin Trail Site

Figure C11. Looking South from the Waggin Trail Site

Figure C10. Looking Southwest from the Waggin Trail Site

At **Lenoir** the NC-DAQ operates a seasonal ozone monitor, the second required ozone-monitor for the MSA. In 2013, the NC-DAQ will add a special purpose sulfur dioxide monitor at Lenoir that will operate every third year to provide data for Prevention of Significant Deterioration (PSD) modeling for industrial expansion. The site is shown in Figure C12. Table C2 summarizes monitoring information for the site. Views looking north, northeast, east, southeast, south, southwest, west, and northwest from the site are shown in Figure C13 to Figure C20.

Figure C12. Lenior Ozone Monitoring Site

Table C2. Site Table for Lenoir

Site Name:	Lenoir			**AQS Site Identification Number:**	37-027-0003
Location:	219 Nuway Circle, Lenoir, North Carolina				
MSA:	Hickory-Lenoir-Morganton, NC			**MSA #:**	3290
Latitude	35.935833	**Longitude**	-81.530278	**Datum:**	WGS84
Elevation	366 meters				

Parameter Name	**Method**	**Method Reference ID**	**Sample Duration**	**Sampling Schedule**
Ozone	Instrumental With Ultra Violet Photometry (047)	EQOA-0880-047	1-Hour	April 1 to October 31
Sulfur Dioxide	Instrumental With Pulsed Fluorescence (009)	EQSA-0276-009	1-Hour	Year-round Every Third Year

Date Monitor Established:	Ozone	January 1, 1981
	Sulfur Dioxide	January 1, 2013

Nearest Road:	Nuway Circle	**Traffic Count:**	4900	**Year of Count:**	2008

Parameter Name	**Distance to Road**	**Direction to Road**	**Monitor Type**	**Statement of Purpose**
Ozone	145 meters	East	SLAMS	Real-time AQI reporting and forecasting. Compliance w/NAAQS.
Sulfur Dioxide	145 meters	East	Special Purpose	Prevention of Significant Deterioration (PSD) Modeling

Parameter Name	**Monitoring Objective**	**Scale**	**Suitable for Comparison to NAAQS**	**Proposal to Move or Change**
Ozone	General Background	Regional	Yes	None
Sulfur Dioxide	General Background	Regional	Yes	None

Parameter Name	**Meets Part 58 Appendix A Requirements**	**Meets Part 58 Appendix C Requirements**	**Meets Part 58 Appendix D Requirements**	**Meets Part 58 Appendix E Requirements**
Ozone	Yes	Yes	Yes	Yes
Sulfur Dioxide	Yes	Yes	Yes	Yes

Parameter Name	**Probe Height (m)**	**Distance to Support**	**Distance to Trees**	**Obstacles**
Ozone	> 2 meters	> 1 meter	>20 meters	None
Sulfur Dioxide	> 2 meters	> 1 meter	>20 meters	None

Figure C13. Looking North from the Lenoir Site

Figure C14. Looking Northeast from the Lenoir Site

Figure C15. Looking Northwest from the Lenoir Site

Figure C16. Looking West from the Lenoir Site

Figure C17. Looking Southwest from the Lenoir Site

Figure C21. Hickory Particle Monitoring Site

Figure C18. Looking East from the Lenoir Site

Figure C19. Looking Southeast from the Lenoir Site

Figure C20. Looking South from the Lenoir Site

At the Hickory site the NC-DAQ operates a one-in-three day fine particle FRM, a one-in-six day fine particle collocated FRM, one-in-six day speciation fine particle SASS and URG monitors, a continuous fine particle monitor, and two one-in-six day high volume PM10 monitors. Figure C21 through Figure C29 show the site as well as views looking north, northeast, east, southeast, south, southwest, west, and northwest. Table C3 summarizes monitoring information for the site.

Figure C22. Looking North from the Hickory Site

Figure C23. Looking Northwest from the Hickory site

Figure C24. Looking West from the Hickory Site

Figure C25. Looking Southwest from the Hickory Site

Figure C26. Looking Northeast from the Hickory Site

Figure C27. Looking East from the Hickory Site

Figure C28. Looking Southeast from the Hickory Site

Figure C29. Looking South from the Hickory Site

Table C3. Site Table for Hickory

Site Name:	Hickory			**AQS Site Identification Number**	37-035-0004
Location:	1650 1st Street, Hickory, North Carolina				
MSA:	Hickory-Lenoir-Morganton, NC			**MSA #:**	3290
Latitude	35.728889	**Longitude**	-81.365556	**Datum:**	WGS84
Elevation	333 meters				

Parameter Name	**Method**	**Method Reference ID**	**Sample Duration**	**Sampling Schedule**
PM 2.5 Local Conditions	R & P Model 2025 PM2.5 Sequential w/WINS – Gravimetric Analysis (118)	RFPS-0498-118	24-Hour	Every Third Day, Year Round Every Sixth Day, Year Round
PM2.5 Raw Data/ Acceptable PM2.5 AQI & Speciation	PM2.5 TEOM w/SCC w/No Correction Factor (701)/(702) PM2.5 TEOM w/SCC w/Correction Factor	Not a Reference Method	1-Hour	Year Round
Acceptable PM2.5 AQI & Speciation	Met One SASS Teflon – Gravimetric Analysis (810)	Not a Reference Method	24-Hour	Every Sixth Day Year Round
EC/OC CSN_Rev Unadjusted PM2.5 LC TOT	URG 3000N w/Pall Quartz filter and Cyclone Inlet	Not a Reference Method	24-Hour	Every Sixth Day Year Round
PM10 Total 0-10um STP	Hi-Vol-Wedding-Inlet - Gravimetric Analysis (062)	RFPS-1087-062	24-Hour	Every Sixth Day Year Round

Date Monitor Established:	PM 2.5 Local Conditions, Primary Monitor	January 1, 1999
	PM 2.5 Local Conditions, Collocated Monitor	August 16, 2008
	PM2.5 Raw Data/ Acceptable PM2.5 AQI & Speciation (TEOM)	January 1, 2006
	Acceptable PM2.5 AQI & Speciation (Super SASS)	January 2, 2002
	EC/OC CSN_Rev Unadjusted PM2.5 LC TOT (URG 3000N)	October 1, 2009
	PM10 Total 0-10um STP, Primary Monitor	September 27, 1992
	PM10 Total 0-10um STP, Collocated Monitor	January 1, 2009

Nearest Road:	15th Street SW	**Traffic Count:**	None	**Year of Count:**	None

Parameter Name	**Distance to Road**	**Direction to Road**	**Monitor Type**	**Statement of Purpose**
PM 2.5 Local Conditions	Not available	Not available	SLAMS QA Collocated	Required monitor. Compliance w/NAAQS. AQI reporting.
PM2.5 Raw Data/ Acceptable PM2.5 AQI & Speciation	16.8 meters	East	SLAMS	Required monitor. Real-time AQI reporting & forecasting.
Acceptable PM2.5 AQI & Speciation	Not available	Not available	Supplemental Speciation	Required monitor.
EC/OC CSN_Rev Unadjusted PM2.5 LC TOT	Not available	Not available	Supplemental Speciation	Required monitor.
PM10 Total 0-10um STP	18 meters	South southwest	SLAMS QA Collocated	Compliance w/NAAQS.

Parameter Name	**Monitoring Objective**	**Scale**	**Suitable for Comparison to NAAQS**	**Proposal to Move or Change**
PM 2.5 Local Conditions	Population Exposure	Neighborhood	Yes	None
PM2.5 Raw Data/ Acceptable PM2.5 AQI & Speciation	Population Exposure	Neighborhood	No	None
Acceptable PM2.5 AQI & Speciation	Population Exposure	Neighborhood	No	None
EC/OC CSN_Rev Unadjusted PM2.5 LC TOT	Population Exposure	Neighborhood	No	None
PM10 Total 0-10um STP	General Background	Neighborhood	Yes	None

Table C3. Site Table for Hickory

Parameter Name	Meets Part 58 Appendix A Requirements	Meets Part 58 Appendix C Requirements	Meets Part 58 Appendix D Requirements	Meets Part 58 Appendix E Requirements
PM 2.5 Local Conditions	Yes	Yes	Yes	Yes
PM2.5 Raw Data/ Acceptable PM2.5 AQI & Speciation	Yes	No not required to	Yes	Yes
Acceptable PM2.5 AQI & Speciation	Yes	No not required to	Yes	Yes
EC/OC CSN_Rev Unadjusted PM2.5 LC TOT	Yes	No not required to	Yes	Yes
PM10 Total 0-10um STP	Yes	Yes	Yes	No

Parameter Name	Probe Height (m)	Distance to Support	Distance to Trees	Obstacles
PM 2.5 Local Conditions	2.46	> 2 meters	>20 meters	None
	2.31	> 2 meters	>20 meters	None
PM2.5 Raw Data/ Acceptable PM2.5 AQI & Speciation	4.57	> 2 meters	>20 meters	None
Acceptable PM2.5 AQI & Speciation	2.16	> 2 meters	>20 meters	None
EC/OC CSN_Rev Unadjusted PM2.5 LC TOT	2.36	> 2 meters	>20 meters	None
PM10 Total 0-10um STP	2.3	1.98	>20 meters	None
	2.2	1.98	>20 meters	None

Figure C30. Location of the URG Carbon Monitor at the Hickory Site

The collocated PM10 monitor was added to the site on January 1, 2009. 40 CFR 58 Appendix A requires the PM10 collocated monitor be at the site in the network with the highest PM10 concentration. The summer of 2009 a URG 3000N Carbon Monitor was added to the Hickory site as part of the chemical speciation network upgrade. The Carbon Monitor operates on a one-in-six day schedule, replacing the carbon channel on the Met One SASS monitor also operating at the site. The Carbon Monitor is located next to the Met One SASS monitor as shown in Figure C30.

The Hickory-Lenoir-Morganton MSA was not impacted by the 2010 **lead monitoring** requirements because it does not have an NCore monitoring station and has no facilities within the MSA reporting over one half tons of lead emissions to the air in 2010. [1]

Any new **ozone monitoring** requirements should also not impact the Hickory-Lenoir-Morganton MSA. The MSA has the minimum number of monitors required by 40 CFR 58 Appendix D for population exposure monitoring in urban areas. This area should also not be impacted by rural ozone monitoring

[1] Data obtained from the NC-DAQ emission inventory database, accessed February 2, 2012.

requirements. An ozone monitor at Linville Falls in Avery County currently represents the Linville Gorge Wilderness Class I Area (located in Burke County).

The Hickory-Lenoir-Morganton MSA was not impacted by the 2010 **nitrogen dioxide monitoring** requirements. It is too small to require area-wide monitors and does not have any roadways with average annual daily traffic above the threshold for near roadway monitoring.

The Hickory-Lenoir-Morganton MSA will also not be impacted by the 2010 **sulfur dioxide monitoring** requirements because the total sulfur dioxide emissions in this MSA multiplied by the total MSA population does not result in an index requiring a population weighted emission index (PWEI) monitor.

Changes to the **carbon dioxide monitoring** requirements will not result in additional monitoring in the Hickory MSA because the MSA population is too small.

(2) The Southwestern Piedmont Area

The Southwestern Piedmont Area consists of two counties: Cleveland and Lincoln. There are no MSAs and one micropolitan statistical area, Lincolnton, in this area. Lincolnton is the largest community. The NC-DAQ currently operates one seasonal ozone-monitoring site in this area at Crouse. The location of this monitoring site is shown in Figure C31.

A is the Crouse ozone monitoring site. The circle shows the urban scale of representation for this monitor (4 to 50 Km).

Figure C31. Location of the Crouse Monitor

At the **Crouse** site in Lincoln County the NC-DAQ operates a seasonal ozone monitor. The site is shown in Figure C32. Monitoring information for the site is summarized in Table C3. Views looking north, northeast, east, southeast, south, southwest, west, and northwest are provided in Figure C33 through Figure C40. The site was originally established as the secondary downwind site for the Charlotte MSA. Thus, this site provides information on ozone being transported from the Charlotte MSA when the wind is from the second most prominent direction during third quarter when ozone concentrations are at their highest.

Figure C32. Crouse Ozone Monitoring Site

The December 2010 revisions to the **lead monitoring** network regulations did not result in additional monitoring in the Southwestern Piedmont Area. This area should also not be impacted by any new **ozone monitoring** requirements. The area does not have any MSAs that must meet the minimum number of monitors required by 40 CFR 58 Appendix D for population exposure monitoring in urban areas. This area should also not be impacted by rural ozone monitoring requirements. It does not have any Class I Areas and already has a monitor that is located in a Micropolitan Statistical Area.

The Southwestern Piedmont Area was not impacted by the 2010 **nitrogen dioxide** monitoring requirements. It is too small to require area-wide

Table C4. Site Table for Crouse

Site Name:	Crouse			
AQS Site Identification Number	37-109-0004			
Location:	1487 Riverview Road Lincolnton, North Carolina			
MSA:	Not in an MSA	**MSA #:**		
Latitude	35.438556			
Longitude	-81.276750	**Datum:**	WGS84	
Elevation	270 meters			

Parameter Name	**Method**	**Method Reference ID**	**Sample Duration**	**Sampling Schedule**
Ozone	Instrumental With Ultra Violet Photometry (047)	EQOA-0880-047	1-Hour	April 1 to October 31
Date Monitor Established: Ozone				July 1, 1993
Nearest Road:	Riverview Road			
Traffic Count:	2200	**Year of Count:**	2009	

Parameter Name	**Distance to Road**	**Direction to Road**	**Monitor Type**	**Statement of Purpose**
Ozone	52 meters	Southwest	SLAMS	Compliance w/NAAQS. Real-time AQI reporting & forecasting.

Parameter Name	**Monitoring Objective**	**Scale**	**Suitable for Comparison to NAAQS**	**Proposal to Move or Change**
Ozone	General Background	Urban	Yes	None

Parameter Name	**Meets Part 58 Appendix A Requirements**	**Meets Part 58 Appendix C Requirements**	**Meets Part 58 Appendix D Requirements**	**Meets Part 58 Appendix E Requirements**
Ozone	Yes	Yes	Yes	Yes

Parameter Name	**Probe Height (m)**	**Distance to Support**	**Distance to Trees**	**Obstacles**
Ozone	3.76	1.22 meter	>20 meters	None

Figure C33. Looking North from the Crouse Site

Figure C34. Looking Northwest from the Crouse Site

Figure C35. Looking West from the Crouse Site

Figure C36. Looking Northeast from the Crouse Site

Figure C37. Looking East from the Crouse Site

Figure C38. Looking Southeast from the Crouse Site

monitors and does not have any roadways with average annual daily traffic above the threshold for near roadway monitoring. The 2010 **sulfur dioxide** monitoring requirements will also not result in additional monitoring in this area because there are no large sources of sulfur

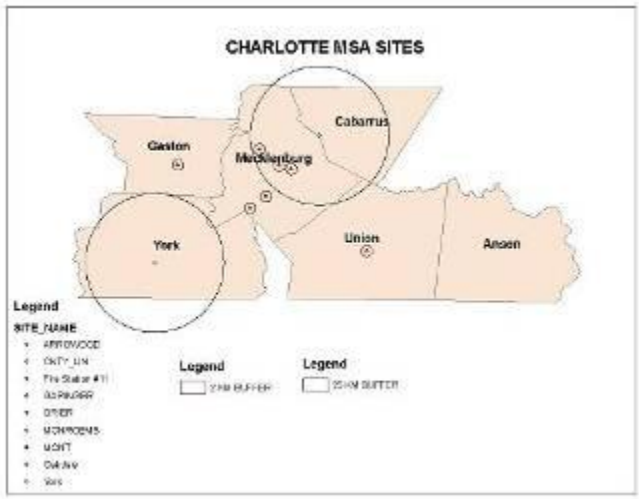
dioxide in the two counties. This area will also not be impacted by the changes to the **carbon dioxide monitoring** requirements because the population is too small.

Figure C39. Looking Southwest from the Crouse Site

Figure C40. Looking South from the Crouse Site

(3) Charlotte-Gastonia-Concord MSA

The Charlotte-Gastonia-Concord MSA consists of six counties: Anson, Cabarrus, Gaston, Mecklenburg, Union, and York (South Carolina). The major metropolitan areas are Charlotte, Gastonia, Concord, and Rock Hill (South Carolina). This MSA is one of the fastest growing areas in North Carolina. The NC-DAQ currently operates two monitoring sites in the Charlotte-Gastonia-Concord MSA, Mecklenburg County Air Quality (MCAQ) operates six, and the South Carolina Department of Health and Environmental Conservation (DHEC) operates one. These sites are located at Grier Middle School (Gaston County), Arrowood, Garinger High School, County Line, and Oakdale, in Charlotte (Mecklenburg County), Monroe (Union County), and York (York County). The locations of these monitors are shown in Figure C41. The MCAQ sites and monitors are discussed in Appendix B. Only the two NC-DAQ sites (Grier in Gaston County and Monroe in Union County) are further discussed in this subsection.



CNTY_LIN is the County Line ozone site; Oakdale is the Oakdale particle site; York is the York ozone site; GARINGER is the Garinger multi-pollutant site; ARROWOOD is the Arrowood ozone site; MONROEMS is the Monroe ozone site; Fire Station #11 is the Fire Station #11 particle site; GRIER is the Grier School fine particle site; MONT is the Montclaire particle site. The circles approximate the scale of representation (urban – 4 to 50 Km for York and County Line and neighborhood – 0.5 to 4 Km for the other sites).

Figure C41. Monitoring Sites in the Charlotte MSA

At the **Grier Middle School** site the NC-DAQ operates a one-in-three day fine particle FRM monitor and a continuous fine particle monitor. Figure C42 through Figure C50 provide pictures of the site and views looking north, northeast, east, south, southwest, and west. This fine-particle monitoring site is the fourth fine particle site for the MSA. 40 CFR 58 Appendix D requires the Charlotte-Gastonia-Concord MSA to have only two fine- particle monitoring sites. The site is collocated with wind speed and wind direction sensors.

Figure C42. Grier Middle School Fine Particle Monitoring Site (37-071-0016)

Figure C43. Grier Middle School Site Looking North

Figure C45. Grier Middle School Site Looking Northeast

Figure C44. Grier Middle School Site Looking Northwest

Figure C46. Grier Middle School Site Looking East

Figure C47. Grier Middle School Site Looking West

Figure C48. Grier Middle School Site Looking Southwest

Figure C49. Grier Middle School Site Looking Southeast

Figure C50. Grier Middle School Site Looking South

Table C5At the **Monroe Middle School** site the NC-DAQ operates a seasonal ozone monitor. Figure C51 shows the site. Table C5 summarizes monitoring information for the site. Figure C52 through Figure C55 provide views looking north, east, south, and west. This ozone-monitoring site is one of five for the MSA. 40 CFR 58 Appendix D requires the Charlotte-Gastonia-Concord MSA to have two ozone monitoring sites. The site is located at the goal end of a soccer field so soccer balls sometimes damage the probe. The NC-DAQ has investigated moving the site to another part of Monroe; however, this site meets the siting criteria in 40 CFR 58 Appendix E better than any nearby alternative location. The NC-DAQ has also added a fence on the roof of the building between the probe and soccer field to protect the probe.

Figure C51. Monroe Ozone Monitoring Site (37-179-0003)

Table C5. Site Table for Monroe Middle School

Site Name:	Monroe Middle School				
AQS Site Identification Number	37-179-0003				
Location:	701 Charles Street Monroe, North Carolina				
MSA:	Charlotte-Gastonia-Rock Hill, NC-SC		**MSA #:**		
Latitude	34.973889		**Datum:**	WGS84	
Longitude	-80.540833				
Elevation	200 meters				
Parameter Name	**Method**	**Method Reference ID**	**Sample Duration**	**Sampling Schedule**	
Ozone	Instrumental With Ultra Violet Photometry (047)	EQOA-0880-047	1-Hour	April 1 to October 31	
Date Monitor Established:	Ozone			April 7, 1999	
Nearest Road:	Charles Street				
Traffic Count:	2500		**Year of Count:**	2009	
Parameter Name	**Distance to Road**	**Direction to Road**	**Monitor Type**	**Statement of Purpose**	
Ozone	71.3 meters	West	Special Purpose	Real-time AQI reporting & forecasting. Compliance w/NAAQS.	
Parameter Name	**Monitoring Objective**	**Scale**	**Suitable for Comparison to NAAQS**	**Proposal to Move or Change**	
Ozone	Population Exposure	Neighborhood	Yes	None	
Parameter Name	**Meets Part 58 Appendix A Requirements**	**Meets Part 58 Appendix C Requirements**	**Meets Part 58 Appendix D Requirements**	**Meets Part 58 Appendix E Requirements**	
Ozone	Yes	Yes	Yes	Yes	
Parameter Name	**Probe Height (m)**	**Distance to Support**	**Distance to Trees**	**Obstacles**	
Ozone	3.9	1 meter	>20 meters	None	

Figure C52. Looking North from the Monroe Site

Figure C53. Looking East from the Monroe Site

Figure C54. Looking West from the Monroe Site

Figure C55. Looking South from the Monroe Site

Changes to the **lead monitoring** requirements in 2010 will result in additional monitoring in the Charlotte-Gastonia-Concord MSA. This MSA has an NCore monitoring site and may begin monitoring at that site for lead in the ambient air December 27, 2011, if funding is provided to pay for the analysis of the samples. Currently, the samples are being archived for possible future analysis.

Any new **ozone monitoring** requirements should not result in additional monitoring in the Charlotte-Gastonia-Concord MSA. The MSA currently exceeds the minimum number of monitors required by 40 CFR 58 Appendix D for population exposure monitoring in urban areas. This area should also not be impacted by rural ozone monitoring requirements. It does not have any Class I Areas.

The 2010 **nitrogen dioxide** monitoring requirements will require additional monitoring in the Charlotte-Gastonia-Concord MSA. The MSA will be required to have an area-wide monitor and a near-roadway monitor. The 2010 **sulfur dioxide** monitoring requirements will also require additional monitoring in the Charlotte-Gastonia-Concord. It is required to have two population-weighted emission index (PWEI) monitors within the MSA because there are large sources of sulfur dioxide as well as large numbers of people in the MSA. These PWEI monitors are located at the Garinger High School monitoring site in Charlotte and at the York monitoring site in York, South Carolina. The changes in the **carbon dioxide monitoring** requirements will also result in more monitoring in this MSA. Because the population in the MSA is over one million people, a near road carbon monoxide monitor will be required in 2017.

(4) The Southern Corridor between Charlotte and Winston-Salem

The southern corridor between Charlotte and Winston-Salem consists of three counties: Iredell, Rowan and Stanly. There are no MSAs in these counties. The Albemarle, Salisbury, and Statesville-Mooresville Micropolitan Statistical Areas are located here. The NC-DAQ currently operates two monitoring sites in this area, both located in Rowan County. The locations of these monitoring sites are shown in Figure 56.

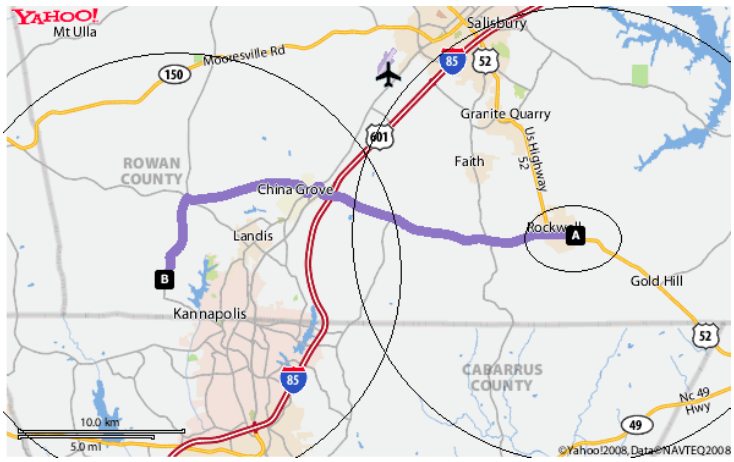


Figure 56. Monitoring Site Locations in Rowan County

A is the Rockwell site; B is the Enochville site. The circles represent the urban and neighborhood scales (30 Km for ozone and 4 Km for the fine particles).

At the **Enochville** site the NC-DAQ operates a seasonal ozone monitor. A picture of the site as well as views looking north, northeast, east, southeast, south, southwest, west, and northwest are provided in Figure C57 through Figure C62.

Figure C57. Enochville Ozone Monitoring Site (37-159-0022)

Figure C58. Looking North from the Enochville Site

Figure C59. Looking Northeast from the Enochville Site

Figure C60. Looking Northwest from the Enochville Site

Figure C63. Looking East from the Enochville Site

Figure C61. Looking West from the Enochville Site

Figure C64. Looking Southeast from the Enochville Site

Figure C62. Looking Southwest from the Enochville Site

Figure C65. Looking South from the Enochville Site

At the **Rockwell** site the NC-DAQ operates a year-round ozone monitor, one-in-three day fine particle FRM monitor, a one-in-six day collocated fine particle monitor, a continuous fine particle monitor, and a one-in-six day speciation fine particle monitor. In addition high sensitivity reactive oxides of nitrogen and carbon monoxide monitors operate year round at this site. A continuous fine particle nitrate monitor and aethalometer also operate year-round at this site. During the summer of 2009 a URG 3000N Carbon Monitor was added to the Rockwell site as part of the chemical speciation network

upgrade. The Carbon Monitor operates on a one-in-six day schedule and replaces the carbon channel on the Met One SASS monitor operating at the site. The Carbon Monitor is located next to the Met One SASS monitor. Pictures of the site as well as views looking north, northeast, east, southeast, south, southwest, west, and northwest are provided in Figure C66 through Figure C75. The NC-DAQ plans to shut down the carbon monoxide monitor in third or fourth quarter of 2012 after receiving official approval from the Environmental Protection Agency. Official approval is unnecessary as the monitor is non-regulatory and does not use an approved Federal Reference or Equivalent Method; however, it is incorrectly listed in the Air Quality System (AQS) as a State and Local Air Monitoring Station (SLAMS). The NC-DAQ has decided that the information provided by the carbon monoxide monitor is no longer needed and that the resources used to operate the monitor can be better used to operate a sulfate monitor at the site. The sulfate monitor will be added in 2013.

Figure C66. Original Building at the Rockwell Ozone and Ozone Precursor Site (37-159-0021)

Figure C67. New Building at the Rockwell Ozone, Fine Particle, and Precursor Site (37-159-0021)

Figure C68. Looking North from the Rockwell Site

Figure C69. Looking Northwest from the Rockwell Site

Figure C70. Looking West from the Rockwell Site

Figure C73. Looking East from the Rockwell Site

Figure C71. Looking Southwest from the Rockwell Site

Figure C74. Looking Southeast from the Rockwell Site

Figure C72. Looking Northeast from the Rockwell Site

Figure C75. Looking South from the Rockwell Site

Table C6. Site Table for Rockwell

Site Name:			Rockwell		
AQS Site Identification Number			37-159-0021		
Location:			316 West Street, Rockwell, North Carolina		
MSA:	Not in an MSA			**MSA #:**	00000
Latitude	35.551868	**Longitude**	-80.395039	**Datum:**	WGS84
Elevation	240 meters				
Parameter Name	**Method**		**Method Reference ID**	**Sample Duration**	**Sampling Schedule**
Carbon Monoxide	Instrumental Nondispersive Infrared (TECO 48S)		Not a Reference Method	1-Hour	Year Round
Reactive Oxides of Nitrogen	Low Level NOx Instrumental (TECO 42S)		Not a Reference Method	1-Hour	Year Round

Table C6. Site Table for Rockwell

Ozone	Instrumental With Ultra Violet Photometry (047)	EQOA-0880-047	1-Hour	Year Round
PM 2.5 Local Conditions	R & P Model 2025 PM2.5 Sequential w/WINS – Gravimetric Analysis (118)	RFPS-0498-118	24-Hour	Every Third Day, Year Round Every Sixth Day, Year Round
PM2.5 Raw Data/ Acceptable PM2.5 AQI & Speciation	PM2.5 TEOM w/SCC w/No Correction Factor (701)/(702) PM2.5 TEOM w/SCC w/Correction Factor	Not a Reference Method	1-Hour	Year Round
Acceptable PM2.5 AQI & Speciation	Met One SASS Teflon – Gravimetric Analysis (810)	Not a Reference Method	24-Hour	Every Sixth Day Year Round
EC/OC CSN_Rev Unadjusted PM2.5 LC TOT	URG 3000N w/Pall Quartz filter and Cyclone Inlet	Not a Reference Method	24-Hour	Every Sixth Day Year Round
Total Nitrate PM2.5 LC	R&P MODEL 8400N FLASH VAPORIZATION (861)	Not a Reference Method	1-Hour	Year Round
Black Carbon PM2.5 LC/UV Carbon PM2.5 LC	Magee Scientific AE21ER Aethalometer (866)	Not a Reference Method	1-Hour	Year Round

Date Monitor Established:	Carbon Monoxide	April 1, 1993
Date Monitor Established:	Reactive Oxides of Nitrogen	April 1, 1993
Date Monitor Established:	Ozone	April 1, 1993
Date Monitor Established:	PM 2.5 Local Conditions	January 1, 2005 February 14, 2011
Date Monitor Established:	PM2.5 Raw Data/ Acceptable PM2.5 AQI & Speciation	January 1, 2006
Date Monitor Established:	Acceptable PM2.5 AQI & Speciation	January 7, 2005
Date Monitor Established:	EC/OC CSN_Rev Unadjusted PM2.5 LC TOT	October 1, 2009
Date Monitor Established:	Total Nitrate PM2.5 LC	January 2, 2007
Date Monitor Established:	Black Carbon PM2.5 LC/UV Carbon PM2.5 LC	January 1, 2009

Nearest Road:	Gold Hill Road		
Traffic Count:	Not available	**Year of Count:**	

Parameter Name	**Distance to Road**	**Direction to Road**	**Monitor Type**	**Statement of Purpose**
Carbon Monoxide	17 meters	North	Nonregulatory	Ozone and fine particle precursor monitoring
Reactive Oxides of Nitrogen	17 meters	North	Nonregulatory	Ozone and fine particle precursor monitoring; emission inventory validation
Ozone	17 meters	North	Special Purpose	Ozone Precursor Monitoring. Compliancew/NAAQS. Modeling.
PM 2.5 Local Conditions	26 meters	North	SLAMS QA Collocated	Compliance w/NAAQS.
PM2.5 Raw Data/ Acceptable PM2.5 AQI & Speciation	26 meters	North	Nonregulatory	Fine particle precursor monitoring.
Acceptable PM2.5 AQI & Speciation	26 meters	North	Supplemental Speciation	Fine particle precursor monitoring.
EC/OC CSN_Rev Unadjusted PM2.5 LC TOT	26 meters	North	Supplemental Speciation	Fine particle precursor monitoring.
Total Nitrate PM2.5 LC	26 meters	North	Special Purpose	Fine particle precursor monitoring.
Black Carbon PM2.5 LC/UV Carbon PM2.5 LC	26 meters	North	Special Purpose	Fine particle precursor monitoring.

Table C6. Site Table for Rockwell

Parameter Name	Monitoring Objective	Scale	Suitable to Compare to NAAQS	Proposal to Move or Change
Carbon Monoxide	Maximum Ozone Concentration	Urban	No	Shut down 11/1/2012
Reactive Oxides of Nitrogen	Maximum Ozone Concentration	Urban	No	Upgrade monitor
Ozone	Highest Concentration	Urban	Yes	None
PM 2.5 Local Conditions	Population Exposure	Neighborhood	Yes	None
PM2.5 Raw Data/ Acceptable PM2.5 AQI & Speciation	Population Exposure	Neighborhood	No	None
Acceptable PM2.5 AQI & Speciation	Population Exposure	Neighborhood	No	None
EC/OC CSN_Rev Unadjusted PM2.5 LC TOT	Population Exposure	Neighborhood	No	None
Total Nitrate PM2.5 LC	Population Exposure	Neighborhood	No	None
Black Carbon PM2.5 LC/UV Carbon PM2.5 LC	Population Exposure	Neighborhood	No	None

Parameter Name	Meets Part 58 Appendix A Requirements	Meets Part 58 Appendix C Requirements	Meets Part 58 Appendix D Requirements	Meets Part 58 Appendix E Requirements
Carbon Monoxide	Yes	No not required to	No requirements	Yes
Reactive Oxides of Nitrogen	Yes	No not required to	No requirements	Yes
Ozone	Yes	Yes	No requirements	Yes
PM 2.5 Local Conditions	Yes	Yes	No requirements	Yes
PM2.5 Raw Data/ Acceptable PM2.5 AQI & Speciation	Yes	No not required to	No requirements	Yes
Acceptable PM2.5 AQI & Speciation	Yes	No not required to	No requirements	No
EC/OC CSN_Rev Unadjusted PM2.5 LC TOT	Yes	No not required to	No requirements	Yes
Total Nitrate PM2.5 LC	No	No not required to	No requirements	Yes
Black Carbon PM2.5 LC/UV Carbon PM2.5 LC	No	No not required to	No requirements	Yes

Parameter Name	Probe Height (m)	Distance to Support	Distance to Trees	Obstacles
Carbon Monoxide	3.5	1.1 meters	14.3 meters	None
Reactive Oxides of Nitrogen	5.0	1.1 meters	14.3 meters	None
Ozone	3.6	1.1 meters	14.3 meters	None
PM 2.5 Local Conditions	2.4	> 2 meters	>20 meters	None
	2.4	> 2 meters	>20 meters	None
PM2.5 Raw Data/ Acceptable PM2.5 AQI & Speciation	4.5	> 2 meters	>20 meters	None
Acceptable PM2.5 AQI & Speciation	1.9	< 2 meters	>20 meters	None
EC/OC CSN_Rev Unadjusted PM2.5 LC TOT	2.3	> 2 meters	>20 meters	None
Total Nitrate PM2.5 LC	Unavailable	> 2 meters	>20 meters	None
Black Carbon PM2.5 LC/UV Carbon PM2.5 LC	Unavailable	> 2 meters	>20 meters	None

The expansion of the **lead monitoring** network to support the lower lead NAAQS did not result in additional monitoring in the Southern Corridor between Charlotte and Winston-Salem. Any new **ozone**

monitoring requirements should not result in more monitoring in this area. This area does not have any MSAs requiring a minimum number of monitors by 40 CFR 58 Appendix D for population exposure monitoring in urban areas, does not have any Class I Areas and already has a rural ozone monitor at Rockwell.

The 2010 **nitrogen dioxide** monitoring requirements did not result in additional monitoring in the Southern Corridor. The area is too small to require area-wide monitors and does not have any roadways with average annual daily traffic above the threshold for near roadway monitoring. The 2010 **sulfur dioxide** monitoring requirements did not require any additional monitoring in this area because the population and sulfur dioxide emissions do not exceed the required threshold for monitoring. The 2011 changes to the **carbon dioxide monitoring** requirements will also not require additional monitors in this area because the population is too small.

Appendix C.1 Annual Network Site Review Forms for 2011

Waggin Trail in Taylorsville

Lenoir

Hickory

Crouse

Grier Middle School in Gastonia

Monroe Middle School in Monroe

Enochville

Rockwell

Site Review Form Calendar Year 2011

Site Information

Region MRO	**Site Name** Waggin Trail	**AQS Site #** 37- 003 - 0004
Street Address 106 Waggin Trail		**City** Taylorsville, NC
Urban Area Not in an Urban Area	**Core-based Statistical Area** Hickory-Lenoir-Morganton, NC	

Enter Exact		Method of Measuring	
Longitude W 81.18962	**Latitude** N 35.929068	**Other (explain)**	**Explanation:** Laptop Computer with GPS USB attachment with DeLorme Street Atlas software.
In Decimal Degrees	In Decimal Degrees		

Elevation Above/below Mean Sea Level (in meters) **359.5**

Name of nearest road to inlet probe Waggin Trail ADT 0 Year 0

Comments: No traffic data available; this is a rural dirt road.

Distance of site to nearest major road (m) 183.40 Direction from site to nearest major road E

Name of nearest major road Highway 16 North ADT 7,800 Year 2010

Comments: Used http://www.ncdot.gov/travel/statemapping/trafficvolumemaps/

Site located near electrical substation/high voltage power lines? Yes ☐ No ☒

Distance of site to nearest railroad track	(m) 1554 Direction to RR ESE ☐NA
Distance of site to nearest power pole w/transformer	(m) 53 Direction SSE

Distance between site and drip line of water tower (m) _____ Direction from site to water tower _____ ☒NA

Explain any sources of potential bias; include cultivated fields, loose bulk storage, stacks, vents, railroad tracks, construction activities, fast food restaurants, and swimming pools.

None noted at the time of site review.

ANSWER ALL APPLICABLE QUESTIONS:

Parameters	Monitoring Objective	Scale	Site Type
☐NA ☐ SO_2 (NAAQS) ☐ SO_2 (trace-level) ☐ NO_x (NAAQS) ☐ $HSNO_y$ ☒ O_3 ☐ NH_3 ☐ Hydrocarbon ☐ Air Toxics ☐ HSCO (Not Micro) ☐ CO (trace-level)	☒General/Background ☐Highest Concentration ☐Max O3 Concentration ☐Population Exposure ☐Source Oriented ☐Transport ☐Upwind Background ☐Welfare Related Impacts	☐Micro ☐Middle ☐Neighborhood ☒Urban ☐Regional	☒SLAMS ☐NCORE ☐SPM ☐SPM/OPN ☐NON/REGULATORY

Probe inlet height (from ground) 2-15 m? Yes ☒ No ☐ Give actual measured height from ground (meters) 4.7

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☒ No ☐

Actual measured distance from probe to supporting structure (meters) 1

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☒

Is probe > 20 m from the nearest tree drip line? Yes ☒ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐

*Distance from probe to tree (m) _____ Direction from probe to tree ___

*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☒

*Identify obstacle ____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle ___

*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) 14 Direction from probe to nearest traffic lane W

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ CO (Micro Only)	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport_____ ☐ Welfare Related Impacts ____	☐ Micro____	☐ SLAMS _____ ☐ SPM_____ ☐ SPM/OPN____ ☐ NONREGULATORY

Probe inlet height (from ground) 2.5 - 3.5 m? Yes ☐ No ☐
Actual measured distance from probe inlet to ground (meters) ____

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☐
Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet to nearest intersection > 10 m? Yes ☐ No ☐
Distance of probe inlet to nearest traffic lane 2 - 10 m? Yes ☐ No ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____Direction from probe to nearest traffic lane ___

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ NO_y (trace-level)	☐ General/Background____ ☐ Highest Concentration_____ ☐ Max O3 Concentration_ ☐ Population Exposure_____ ☐ Source Oriented_____ ☐ Transport_____ ☐ Upwind Background_____ ☐ Welfare Related Impacts_____	☐ Micro_____ ☐ Middle_____ ☐ Neighborhood____ ☐ Urban_____ ☐ Regional____	☐ SLAMS _____ ☐ NCORE____ ☐ SPM_____ ☐ SPM/OPN____ ☐ NONREGULATORY

Probe inlet height (from ground) 10-15 m? Yes ☐ No ☐
Actual measured distance from probe inlet to ground (meters) ____

Distance of probe inlet from horizontal and/or vertical supporting structure > 1 m? Yes ☐ No ☐
Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ NO_2 (Near Road only) ☐ CO (Near Road only)	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport____ ☐ Welfare Related Impacts	☐ Micro____	☐ SLAMS ____ ☐ SPM____ ☐ NONREGULATORY ____

Probe inlet height (from ground) 2-15 m? Yes ☐ No ☐ Give actual measured height from ground (meters) ____

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☐

Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐

*Distance from probe to tree (m) ____ Direction from probe to tree ___

*Height of tree (m) ____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) ____Direction from probe inlet to obstacle ___

*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) ____ Direction from probe to nearest traffic lane ___

Parameters	Monitoring Objective	Scale	Site Type
☒ NA Air flow > 200 L/min ☐ PM10 ☐ TSP ☐ Pb	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Background____ ☐ Transport____ ☐ Welfare Related Impacts ____	☐ Micro____ ☐ Middle____ ☐ Neighborhood____ ☐ Urban____ ☐ Regional____	☐ SLAMS ____ ☐ NCORE____ ☐ SPM____ ☐ NONREGULATORY ____

Probe inlet height (from ground) ☐ < 2 m ____ ☐ 2-7m ____ ☐ 7-15 m ____ ☐ > 15 m____

Actual measured distance from probe inlet to ground (meters) ____

Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes ☐ No ☐

Actual measured distance from probe to supporting structure (meters) ____

Distance between collocated PM-10, TSP or Pb sampler inlets = 2 to 4 m? Yes ☐ No ☐ NA ☐

Actual measured distance between collocated probes (meters) ____

Distance between any high volume inlet and any other high or low volume inlet ≥ 2 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐

*Distance from probe to tree (m) ____ Direction from probe to tree ___

*Height of tree (m) ____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) ____Direction from probe inlet to obstacle ___

*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) ____ Direction from probe to nearest traffic lane ___

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA Air flow < 200 L/min ☐ PM2.5 ☐ PM10 ☐ PM10-2.5 ☐ PM10 Lead (PB) ☐ PM2.5 Cont. (TEOM) ☐ PM2.5 Cont. (BAM) ☐ PM2.5 Spec. (SASS) ☐ PM2.5 Spec. (URG) ☐ PM2.5 Cont. Spec.	☐ General/Background____ ☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport____ ☐ Upwind Background____ ☐ Welfare Related Impacts ____	☐ Micro____ ☐ Middle____ ☐ Neighborhood____ ☐ Urban____ ☐ Regional____	☐ SLAMS ____ ☐ NCORE____ ☐ SPM____ ☐ NONREGULATORY ____

Probe inlet height (from ground) ☐ < 2 m ____ ☐ 2-7m ____ ☐ 7-15 m ____ ☐ > 15 m____
Actual measured distance from probe inlet to ground (meters) ____

Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes ☐ No ☐____

Distance between inlets of any low volume monitor and any other low volume monitor at the site = 1 m or greater? Yes ☐ No ☐ NA ☐

Distance between all low volume monitor inlets and any Hi-Volume PM-10 or TSP inlet = 2 m or greater? Yes ☐ No ☐ NA ☐

Are collocated PM2.5 Monitors (Two FRMs, FRM & BAM, FRM & TEOM, BAM & TEOM) Located at Site? *Yes ☐ (answer *'d questions) No ☐ NA ☐

*Distance between collocated PM 2.5 sampler inlets = 1 to 4 m? Yes ☐ No ☐ Give actual (meters) ____

*Are collocated PM2.5 sampler inlets within 1 m vertically of each other? Yes ☐ No ☐ Give actual (meters) ____

Is an URG 3000 monitor collocated with a SASS monitor at the site? *Yes ☐ (answer *'d questions) No ☐ NA ☐

* Distance between collocated speciation sampler inlets = 1 to 4 m? Yes ☐ No ☐ Give actual (meters) ____

* Are collocated speciation sampler inlets within 1 m vertically of each other? Yes ☐ No ☐ Give actual (meters) ____

Is a low-volume PM10 monitor collocated with a PM2.5 monitor at the site to measure PM10-2.5? *Yes ☐ (answer *'d questions) No ☐ NA ☐

*Distance between collocated PM10 and PM2.5 inlets for PM10-2.5 samplers = 1 to 4 m? Yes ☐ No ☐

*Are collocated PM10 and PM2.5 sampler inlets within 1 m vertically of each other? Yes ☐ No ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐

*Distance from probe to tree (m) _____ Direction from probe to tree ___

*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___

*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

RECOMMENDATIONS:

1) Maintain current site status? Yes ☒ *No ☐ (answer *'d questions)

*2) Change monitoring objective? Yes ☐ (enter new objective _____) No ☐-

*3) Change scale of representativeness? Yes ☐ (enter new scale _____) No ☐

*4) Relocate site? Yes ☐ No ☐

Comments:

Reviewer Paul Chappin Date December 20, 2011

Ambient Monitoring Coordinator D. W. Manning Date January 25, 2012

Revised 2012-01-30

Site Review Form Calendar Year 2011

Site Information

Region ARO	**Site Name** Lenoir	**AQS Site #** 37- 027 - 0003
Street Address- 219 Nuway Circle		**City** Lenoir
Urban Area LENOIR	**Core-based Statistical Area** Hickory-Lenoir-Morganton, NC	

Enter Exact		Method of Measuring	
Longitude -81.530612	**Latitude** 35.935934		
In Decimal Degrees	In Decimal Degrees	**Other (explain)**	**Explanation: Google Earth**

Elevation Above/below Mean Sea Level (in meters) 372

Name of nearest road to inlet probe Nuway Circle ADT 4900 Year 2008

Comments: _____

Distance of site to nearest major road (m) 208.00 Direction from site to nearest major road SW

Name of nearest major road Hwy 321 ADT 18000 Year 2009

Comments: _____

Site located near electrical substation/high voltage power lines? Yes ☒ No ☐

Distance of site to nearest railroad track (m) 962 Direction to RR WSW ☐NA

Distance of site to nearest power pole w/transformer (m) _____ Direction ___

Distance between site and drip line of water tower (m) _____ Direction from site to water tower _____ ☒NA

Explain any sources of potential bias; include cultivated fields, loose bulk storage, stacks, vents, railroad tracks, construction activities, fast food restaurants, and swimming pools.

_____

ANSWER ALL APPLICABLE QUESTIONS:

Parameters	Monitoring Objective	Scale	Site Type
☐ NA ☐ SO_2 (NAAQS) ☐ SO_2 (trace-level) ☐ NO_y (NAAQS) ☐ HSNO$_y$ ☒ O_3 ☐ NH_3 ☐ Hydrocarbon ☐ Air Toxics ☐ HSCO (Not Micro) ☐ CO (trace-level)	☐ General/Background ☐ Highest Concentration ☐ Max O3 Concentration ☒ Population Exposure ☐ Source Oriented ☐ Transport ☐ Upwind Background ☐ Welfare Related Impacts	☐ Micro ☐ Middle ☐ Neighborhood ☒ Urban ☐ Regional	☒ SLAMS ☐ NCORE ☐ SPM ☐ SPM/OPN ☐ NONREGULATORY

Probe inlet height (from ground) 2-15 m? Yes ☒ No ☐ Give actual measured height from ground (meters) ____

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☒ No ☐

Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☒

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☒ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☒ *No ☐

*Distance from probe to tree (m) _____ Direction from probe to tree ___

*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☒

*Identify obstacle ____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle ___

*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) 145 Direction from probe to nearest traffic lane E

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ CO (Micro Only)	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport_____ ☐ Welfare Related Impacts ____	☐ Micro____	☐ SLAMS _____ ☐ SPM_____ ☐ SPM/OPN____ ☐ NONREGULATORY

Probe inlet height (from ground) 2.5 - 3.5 m? Yes ☐ No ☐
Actual measured distance from probe inlet to ground (meters) ____

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☐
Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet to nearest intersection > 10 m? Yes ☐ No ☐
Distance of probe inlet to nearest traffic lane 2 - 10 m? Yes ☐ No ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____Direction from probe to nearest traffic lane ___

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ NO_y (trace-level)	☐ General/Background_____ ☐ Highest Concentration_____ ☐ Max O3 Concentration_ ☐ Population Exposure_____ ☐ Source Oriented_____ ☐ Transport_____ ☐ Upwind Background_____ ☐ Welfare Related Impacts ____	☐ Micro_____ ☐ Middle_____ ☐ Neighborhood_____ ☐ Urban_____ ☐ Regional_____	☐ SLAMS _____ ☐ NCORE_____ ☐ SPM_____ ☐ SPM/OPN_____ ☐ NONREGULATORY

Probe inlet height (from ground) 10-15 m? Yes ☐ No ☐
Actual measured distance from probe inlet to ground (meters) ____

Distance of probe inlet from horizontal and/or vertical supporting structure > 1 m? Yes ☐ No ☐
Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ NO_2 (Near Road only) ☐ CO (Near Road only)	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport____ ☐ Welfare Related Impacts ____	☐ Micro____	☐ SLAMS ____ ☐ SPM____ ☐ NONREGULATORY ____

Probe inlet height (from ground) 2-15 m? Yes ☐ No ☐ Give actual measured height from ground (meters) ____

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☐

Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) ____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) ____ Direction from probe to nearest traffic lane ___

Parameters	Monitoring Objective	Scale	Site Type
☒ NA Air flow > 200 L/min ☐ PM10 ☐ TSP ☐ Pb	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Background____ ☐ Transport____ ☐ Welfare Related Impacts ____	☐ Micro____ ☐ Middle____ ☐ Neighborhood____ ☐ Urban____ ☐ Regional____	☐ SLAMS ____ ☐ NCORE____ ☐ SPM____ ☐ NONREGULATORY ____

Probe inlet height (from ground) ☐ < 2 m ____ ☐ 2-7m ____ ☐ 7-15 m ____ ☐ > 15 m____

Actual measured distance from probe inlet to ground (meters) ____

Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes ☐ No ☐

Actual measured distance from probe to supporting structure (meters) ____

Distance between collocated PM-10, TSP or Pb sampler inlets – 2 to 4 m? Yes ☐ No ☐ NA ☐

Actual measured distance between collocated probes (meters) ____

Distance between any high volume inlet and any other high or low volume inlet ≥ 2 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) ____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) ____ Direction from probe to nearest traffic lane ___

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA Air flow = 200 L/min ☐ PM2.5 ☐ PM10 ☐ PM10-2.5 ☐ PM10 Lead (PB) ☐ PM2.5 Cont. (TEOM) ☐ PM2.5 Cont. (BAM) ☐ PM2.5 Spec. (SASS) ☐ PM2.5 Spec. (URG) ☐ PM2.5 Cont. Spec	☐ General/Background____ ☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport_____ ☐ Upwind Background____ ☐ Welfare Related Impacts ____	☐ Micro_____ ☐ Middle_____ ☐ Neighborhood____ ☐ Urban_____ ☐ Regional____	☐ SLAMS _____ ☐ NCORE____ ☐ SPM_____ ☐ NONREGULATORY _____

Probe inlet height (from ground) ☐ < 2 m ____ ☐ 2-7m ____ ☐ 7-15 m ____ ☐ > 15 m____
Actual measured distance from probe inlet to ground (meters) ____

Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes ☐ No ☐____

Distance between inlets of any low volume monitor and any other low volume monitor at the site = 1 m or greater?	Yes ☐ No ☐ NA ☐
Distance between all low volume monitor inlets and any Hi-Volume PM-10 or TSP inlet = 2 m or greater?	Yes ☐ No ☐ NA ☐
Are collocated PM2.5 Monitors (Two FRMs, FRM & BAM, FRM & TEOM, BAM & TEOM) Located at Site?	*Yes ☐ (answer *'d questions) No ☐ NA ☐
*Distance between collocated PM 2.5 sampler inlets = 1 to 4 m?	Yes ☐ No ☐ Give actual (meters) ____
*Are collocated PM2.5 sampler inlets within 1 m vertically of each other?	Yes ☐ No ☐ Give actual (meters) ____
Is an URG 3000 monitor collocated with a SASS monitor at the site?	*Yes ☐ (answer *'d questions) No ☐ NA ☐
* Distance between collocated speciation sampler inlets = 1 to 4 m?	Yes ☐ No ☐ Give actual (meters) ____
* Are collocated speciation sampler inlets within 1 m vertically of each other?	Yes ☐ No ☐ Give actual (meters) ____
Is a low-volume PM10 monitor collocated with a PM2.5 monitor at the site to measure PM10-2.5?	*Yes ☐ (answer *'d questions) No ☐ NA ☐
*Distance between collocated PM10 and PM2.5 inlets for PM10-2.5 samplers = 1 to 4 m?	Yes ☐ No ☐
*Are collocated PM10 and PM2.5 sampler inlets within 1 m vertically of each other?	Yes ☐ No ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

RECOMMENDATIONS:

1) Maintain current site status? Yes ☒ *No ☐ (answer *'d questions)
*2) Change monitoring objective? Yes ☐ (enter new objective _____) No ☐-
*3) Change scale of representativeness? Yes ☐ (enter new scale) No ☐
*4) Relocate site? Yes ☐ No ☐

Comments: _____

Reviewer Steve Ensley Date January 19, 2012

Ambient Monitoring Coordinator Steve Ensley Date January 19, 2012

Revised 2012-05-09

Site Review Form Calendar Year 2011

Site Information

Region MRO	**Site Name** Hickory	**AQS Site # 37-** 035 - 0004
Street Address- 1st Ave. SW at 15th Street SW		**City** Hickory
Urban Area HICKORY	**Core-based Statistical Area Hickory-Lenoir-Morganton, NC**	

Enter Exact		Method of Measuring	
Longitude W 81.365	**Latitude** N 35.7290	**Other (explain)**	**Explanation:** Laptop Computer with GPS USB attachment and DeLorme Street Atlas software
In Decimal Degrees	In Decimal Degrees		

Elevation Above/below Mean Sea Level (in meters) 349

Name of nearest road to inlet probe 15th Street SW ADT 0 Year 0

Comments: 16.8 M as measured from the TEOM; no traffic data available for this road.

Distance of site to nearest major road (m) 17.9 as measured from SASS Direction from site to nearest major road SSW

Name of nearest major road 2nd Ave. SW ADT 3,700 Year 2009

Comments: Used http://www.ncdot.gov/travel/statemapping/trafficvolumemaps/

Site located near electrical substation/high voltage power lines? Yes ☒ No ☐

Distance of site to nearest railroad track	(m) 230 from TEOM Direction to RR N	☐NA
Distance of site to nearest power pole w/transformer	(m) 26.5 from TEOM Direction E	

Distance between site and drip line of water tower (m) **12.8 from URG** Direction from site to water tower **NNW** ☐NA

Explain any sources of potential bias; include cultivated fields, loose bulk storage, stacks, vents, railroad tracks, construction activities, fast food restaurants, and swimming pools.

None noted at the time of site review.

ANSWER ALL APPLICABLE QUESTIONS:

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ SO_2 (NAAQS) ☐ SO_2 (trace-level) ☐ NO_y (NAAQS) ☐ HISNO$_y$ ☐ O_3 ☐ NH_3 ☐ Hydrocarbon ☐ Air Toxics ☐ HISCO (Not Micro) ☐ CO (trace-level)	☐General/Background ☐Highest Concentration ☐Max O3 Concentration ☐Population Exposure ☐Source Oriented ☐Transport ☐Upwind Background ☐Welfare Related Impacts	☐Micro ☐Middle ☐Neighborhood ☐Urban ☐Regional	☐SLAMS ☐NCORE ☐SPM ☐SPM/OPN ☐NONREGULATORY

Probe inlet height (from ground) 2-15 m? Yes ☐ No ☐ Give actual measured height from ground (meters) ____

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☐
Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐

*Distance from probe to tree (m) _____ Direction from probe to tree ___

*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle ___

*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ CO (Micro Only)	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport_____ ☐ Welfare Related Impacts ____	☐ Micro____	☐ SLAMS _____ ☐ SPM_____ ☐ SPM/OPN____ ☐ NONREGULATORY

Probe inlet height (from ground) 2.5 - 3.5 m? Yes ☐ No ☐
Actual measured distance from probe inlet to ground (meters) ____

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☐
Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet to nearest intersection > 10 m? Yes ☐ No ☐
Distance of probe inlet to nearest traffic lane 2 - 10 m? Yes ☐ No ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____Direction from probe to nearest traffic lane ___

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ NO_y (trace-level)	☐ General/Background____ ☐ Highest Concentration____ ☐ Max O3 Concentration_ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport_____ ☐ Upwind Background____ ☐ Welfare Related Impacts ____	☐ Micro_____ ☐ Middle_____ ☐ Neighborhood____ ☐ Urban_____ ☐ Regional____	☐ SLAMS _____ ☐ NCORE____ ☐ SPM_____ ☐ SPM/OPN____ ☐ NONREGULATORY

Probe inlet height (from ground) 10-15 m? Yes ☐ No ☐
Actual measured distance from probe inlet to ground (meters) ____

Distance of probe inlet from horizontal and/or vertical supporting structure > 1 m? Yes ☐ No ☐
Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ NO_2 (Near Road only) ☐ CO (Near Road only)	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport____ ☐ Welfare Related Impacts	☐ Micro____	☐ SLAMS ____ ☐ SPM____ ☐ NONREGULATORY ____

Probe inlet height (from ground) 2-15 m? Yes ☐ No ☐ Give actual measured height from ground (meters) ____

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☐

Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) ____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

Parameters	Monitoring Objective	Scale	Site Type
☐ NA Air flow > 200 L/min ☒ PM10 ☐ TSP ☐ Pb	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☒ Background____ ☐ Transport____ ☐ Welfare Related Impacts ____	☐ Micro____ ☐ Middle____ ☒ Neighborhood____ ☐ Urban____ ☐ Regional____	☒ SLAMS ____ ☐ NCORE____ ☐ SPM____ ☐ NONREGULATORY ____

Probe inlet height (from ground) ☐ < 2 m ____ ☒ 2-7m ____ ☐ 7-15 m ____ ☐ > 15 m____

Actual measured distance from probe inlet to ground (meters) HC PM10 2.3 m and HCA PM10 2.2 m____

Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes ☐ No ☒

Actual measured distance from probe to supporting structure (meters) 1.98

Distance between collocated PM-10, TSP or Pb sampler inlets = 2 to 4 m? Yes ☒ No ☐ NA ☐

Actual measured distance between collocated probes (meters) 3.556

Distance between any high volume inlet and any other high or low volume inlet ≥ 2 m? Yes ☒ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☒ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) ____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) 18 Direction from probe to nearest traffic lane SSW

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☐ NA Air flow = 200 L/min ☒ PM2.5 ☐ PM10 ☐ PM10-2.5 ☐ PM10 Lead (PB) ☒ PM2.5 Cont. (TEOM) ☐ PM2.5 Cont. (BAM) ☒ PM2.5 Spec. (SASS) ☒ PM2.5 Spec. (URG) ☐ PM2.5 Cont. Spec	☐ General/Background ☐ Highest Concentration ☒ Population Exposure ☐ Source Oriented ☐ Transport ☐ Upwind Background ☐ Welfare Related Impacts	☐ Micro ☐ Middle ☒ Neighborhood ☐ Urban ☐ Regional	☒ SLAMS ☐ NCORE ☐ SPM ☐ NONREGULATORY

Probe inlet height (from ground) ☐ < 2 m ☒ 2-7m ☐ 7-15 m ☐ > 15 m
Actual measured distance from probe inlet to ground (meters) PM2.5 2.46, PM2.5A 2.31, TEOM 4.57, URG 2.36, SASS 2.16

Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes ☒ No ☐

Distance between inlets of any low volume monitor and any other low volume monitor at the site = 1 m or greater?	Yes ☒ No ☐ NA ☐
Distance between all low volume monitor inlets and any Hi-Volume PM-10 or TSP inlet = 2 m or greater?	Yes ☒ No ☐ NA ☐
Are collocated PM2.5 Monitors (Two FRMs, FRM & BAM, FRM & TEOM, BAM & TEOM) Located at Site?	*Yes ☒ (answer *'d questions) No ☐ NA ☐
*Distance between collocated PM 2.5 sampler inlets = 1 to 4 m?	Yes ☒ No ☐ Give actual (meters) 3.02
*Are collocated PM2.5 sampler inlets within 1 m vertically of each other?	Yes ☒ No ☐ Give actual (meters) .25
Is an URG 3000 monitor collocated with a SASS monitor at the site?	*Yes ☒ (answer *'d questions) No ☐ NA ☐
* Distance between collocated speciation sampler inlets = 1 to 4 m?	Yes ☒ No ☐ Give actual (meters) 2.1
* Are collocated speciation sampler inlets within 1 m vertically of each other?	Yes ☒ No ☐ Give actual (meters) 2
Is a low-volume PM10 monitor collocated with a PM2.5 monitor at the site to measure PM10-2.5?	*Yes ☐ (answer *'d questions) No ☒ NA ☐
*Distance between collocated PM10 and PM2.5 inlets for PM10-2.5 samplers = 1 to 4 m?	Yes ☐ No ☐
*Are collocated PM10 and PM2.5 sampler inlets within 1 m vertically of each other?	Yes ☐ No ☐

Is probe > 20 m from the nearest tree drip line? Yes ☒ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☒

*Identify obstacle ___ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) 16 from TEOM Direction from probe to nearest traffic lane E

RECOMMENDATIONS:

1) Maintain current site status? Yes ☒ *No ☐ (answer *'d questions)
*2) Change monitoring objective? Yes ☐ (enter new objective _____) No ☐
*3) Change scale of representativeness? Yes ☐ (enter new scale) No ☐
*4) Relocate site? Yes ☐ No ☐

Comments:

Reviewer Paul Chappin Date December 20, 2011

Ambient Monitoring Coordinator D.W. Manning Date January 27, 2012

Revised 2012-05-09

Site Review Form Calendar Year 2011

Site Information

Region MRO	**Site Name** Crouse	**AQS Site #** 37- 109 - 0004
Street Address 1487 Riverview Rd		**City** Lincolnton NC
Urban Area Not in an Urban Area	**Core-based Statistical Area** Lincolnton, NC	
Enter Exact		**Method of Measuring**
Longitude W 81.2768	**Latitude** N 35.4385	**GPS** **Explanation: Mapping**
In Decimal Degrees	In Decimal Degrees	
Elevation Above/below Mean Sea Level (in meters)		261

Name of nearest road to inlet probe Riverview Rd ADT 2200 Year 2009

Comments: _____

Distance of site to nearest major road (m) 78.00 Direction from site to nearest major road N

Name of nearest major road W. Hwy 150 Bypass ADT 8600 Year 2010

Comments: _____

Site located near electrical substation/high voltage power lines?	Yes ☐ No ☒
Distance of site to nearest railroad track	(m) 302 Direction to RR W ☐NA
Distance of site to nearest power pole w/transformer	(m) 52 Direction SW

Distance between site and drip line of water tower (m) **28** Direction from site to water tower **NE** ☐**NA**

Explain any sources of potential bias; include cultivated fields, loose bulk storage, stacks, vents, railroad tracks, construction activities, fast food restaurants, and swimming pools.

_____

ANSWER ALL APPLICABLE QUESTIONS:

Parameters	Monitoring Objective	Scale	Site Type
☐ NA ☐ SO_2 (NAAQS) ☐ SO_2 (trace-level) ☐ NO_x (NAAQS) ☐ $HSNO_y$ ☒ O_3 ☐ NH_3 ☐ Hydrocarbon ☐ Air Toxics ☐ HSCO (Not Micro) ☐ CO (trace-level)	☒ General/Background ☐ Highest Concentration ☐ Max O3 Concentration ☐ Population Exposure ☐ Source Oriented ☐ Transport ☐ Upwind Background ☐ Welfare Related Impacts	☐ Micro ☐ Middle ☐ Neighborhood ☒ Urban ☐ Regional	☒ SLAMS ☐ NCORE ☐ SPM ☐ SPM/OPN ☐ NONREGULATORY

Probe inlet height (from ground) 2-15 m? Yes ☒ No ☐ Give actual measured height from ground (meters) 3.76

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☒ No ☐

Actual measured distance from probe to supporting structure (meters) 1.22

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☒

Is probe > 20 m from the nearest tree drip line? Yes ☒ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐

*Distance from probe to tree (m) _____ Direction from probe to tree ___

*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☒

*Identify obstacle ___ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle ___

*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) 52 Direction from probe to nearest traffic lane SW

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ CO (Micro Only)	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport_____ ☐ Welfare Related Impacts ____	☐ Micro____	☐ SLAMS _____ ☐ SPM_____ ☐ SPM/OPN____ ☐ NONREGULATORY

Probe inlet height (from ground) 2.5 - 3.5 m? Yes ☐ No ☐
Actual measured distance from probe inlet to ground (meters) ____

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☐
Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet to nearest intersection > 10 m? Yes ☐ No ☐
Distance of probe inlet to nearest traffic lane 2 - 10 m? Yes ☐ No ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____Direction from probe to nearest traffic lane ___

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ NO_y (trace-level)	☐ General/Background_____ ☐ Highest Concentration_____ ☐ Max O3 Concentration_ ☐ Population Exposure_____ ☐ Source Oriented_____ ☐ Transport_____ ☐ Upwind Background_____ ☐ Welfare Related Impacts _____	☐ Micro_____ ☐ Middle_____ ☐ Neighborhood_____ ☐ Urban_____ ☐ Regional_____	☐ SLAMS _____ ☐ NCORE_____ ☐ SPM_____ ☐ SPM/OPN_____ ☐ NONREGULATORY

Probe inlet height (from ground) 10-15 m? Yes ☐ No ☐
Actual measured distance from probe inlet to ground (meters) ____

Distance of probe inlet from horizontal and/or vertical supporting structure > 1 m? Yes ☐ No ☐
Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ NO_2 (Near Road only) ☐ CO (Near Road only)	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport____ ☐ Welfare Related Impacts	☐ Micro____	☐ SLAMS ____ ☐ SPM____ ☐ NONREGULATORY ____

Probe inlet height (from ground) 2-15 m? Yes ☐ No ☐ Give actual measured height from ground (meters) ____

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☐

Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) ____ Direction from probe to tree ___
*Height of tree (m) ____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) ____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) ____ Direction from probe to nearest traffic lane ___

Parameters	Monitoring Objective	Scale	Site Type
☒ NA Air flow > 200 L/min ☐ PM10 ☐ TSP ☐ Pb	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Background____ ☐ Transport____ ☐ Welfare Related Impacts ____	☐ Micro____ ☐ Middle____ ☐ Neighborhood____ ☐ Urban____ ☐ Regional____	☐ SLAMS ____ ☐ NCORE____ ☐ SPM____ ☐ NONREGULATORY ____

Probe inlet height (from ground) ☐ < 2 m ____ ☐ 2-7m ____ ☐ 7-15 m ____ ☐ > 15 m____

Actual measured distance from probe inlet to ground (meters) ____

Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes ☐ No ☐

Actual measured distance from probe to supporting structure (meters) ____

Distance between collocated PM-10, TSP or Pb sampler inlets = 2 to 4 m? Yes ☐ No ☐ NA ☐

Actual measured distance between collocated probes (meters) ____

Distance between any high volume inlet and any other high or low volume inlet ≥ 2 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) ____ Direction from probe to tree ___
*Height of tree (m) ____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) ____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) ____ Direction from probe to nearest traffic lane ___

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA Air flow < 200 L/min ☐ PM2.5 ☐ PM10 ☐ PM10-2.5 ☐ PM10 Lead (PB) ☐ PM2.5 Cont. (TEOM) ☐ PM2.5 Cont. (BAM) ☐ PM2.5 Spec. (SASS) ☐ PM2.5 Spec. (URG) ☐ PM2.5 Cont. Spec.	☐ General/Background____ ☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport____ ☐ Upwind Background____ ☐ Welfare Related Impacts ____	☐ Micro____ ☐ Middle____ ☐ Neighborhood____ ☐ Urban____ ☐ Regional____	☐ SLAMS ____ ☐ NCORE____ ☐ SPM____ ☐ NONREGULATORY ____

Probe inlet height (from ground) ☐ < 2 m ____ ☐ 2-7m ____ ☐ 7-15 m ____ ☐ > 15 m____
Actual measured distance from probe inlet to ground (meters) ____

Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes ☐ No ☐____

Distance between inlets of any low volume monitor and any other low volume monitor at the site = 1 m or greater? Yes ☐ No ☐ NA ☐

Distance between all low volume monitor inlets and any Hi-Volume PM-10 or TSP inlet = 2 m or greater? Yes ☐ No ☐ NA ☐

Are collocated PM2.5 Monitors (Two FRMs, FRM & BAM, FRM & TEOM, BAM & TEOM) Located at Site? *Yes ☐ (answer *'d questions) No ☐ NA ☐

*Distance between collocated PM 2.5 sampler inlets = 1 to 4 m? Yes ☐ No ☐ Give actual (meters) ____

*Are collocated PM2.5 sampler inlets within 1 m vertically of each other? Yes ☐ No ☐ Give actual (meters) ____

Is an URG 3000 monitor collocated with a SASS monitor at the site? *Yes ☐ (answer *'d questions) No ☐ NA ☐

* Distance between collocated speciation sampler inlets = 1 to 4 m? Yes ☐ No ☐ Give actual (meters) ____

* Are collocated speciation sampler inlets within 1 m vertically of each other? Yes ☐ No ☐ Give actual (meters) ____

Is a low-volume PM10 monitor collocated with a PM2.5 monitor at the site to measure PM10-2.5? *Yes ☐ (answer *'d questions) No ☐ NA ☐

*Distance between collocated PM10 and PM2.5 inlets for PM10-2.5 samplers = 1 to 4 m? Yes ☐ No ☐

*Are collocated PM10 and PM2.5 sampler inlets within 1 m vertically of each other? Yes ☐ No ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐

*Distance from probe to tree (m) _____ Direction from probe to tree ___

*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___

*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

RECOMMENDATIONS:

1) Maintain current site status? Yes ☒ *No ☐ (answer *'d questions)

*2) Change monitoring objective? Yes ☐ (enter new objective _____) No ☐-

*3) Change scale of representativeness? Yes ☐ (enter new scale _____) No ☐

*4) Relocate site? Yes ☐ No ☐

Comments: _____

Reviewer Sandra Sherer Date January 4, 2012

Ambient Monitoring Coordinator D.W. Manning Date January 25, 2012

Revised 2012-01-27

Site Review Form Calendar Year 2011

Site Information

Region MRO	Site Name Grier	AQS Site # 37- 071 - 0016
Street Address- 1622 E. Garrison Blvd.		City Gastonia
Urban Area GASTONIA	Core-based Statistical Area Charlotte-Gastonia-Concord, NC-SC	

Enter Exact		Method of Measuring	
Longitude W 81.1556	Latitude N 35.2544		
In Decimal Degrees	In Decimal Degrees	GPS	Explanation: mapping
Elevation Above/below Mean Sea Level (in meters)		243	

Name of nearest road to inlet probe Burtonwood Drive ADT 5900 Year 2010

Comments: Decreased from last count in 2006

Distance of site to nearest major road (m) 212.00 Direction from site to nearest major road S

Name of nearest major road E. Garrison Blvd. ADT 19000 Year 2010

Comments: Decreased from last count in 2008

Site located near electrical substation/high voltage power lines? Yes ☐ No ☒

Distance of site to nearest railroad track (m) 2222 Direction to RR W ☐NA

Distance of site to nearest power pole w/transformer (m) 148 Direction E

Distance between site and drip line of water tower (m) _____ Direction from site to water tower _____ ☒NA

Explain any sources of potential bias; include cultivated fields, loose bulk storage, stacks, vents, railroad tracks, construction activities, fast food restaurants, and swimming pools.

_____

ANSWER ALL APPLICABLE QUESTIONS:

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ SO_2 (NAAQS) ☐ SO_2 (trace-level) ☐ NO_x (NAAQS) ☐ $HSNO_y$ ☐ O_3 ☐ NH_3 ☐ Hydrocarbon ☐ Air Toxics ☐ HSCO (Not Micro) ☐ CO (trace-level)	☐ General/Background ☐ Highest Concentration ☐ Max O3 Concentration ☐ Population Exposure ☐ Source Oriented ☐ Transport ☐ Upwind Background ☐ Welfare Related Impacts	☐ Micro ☐ Middle ☐ Neighborhood ☐ Urban ☐ Regional	☐ SLAMS ☐ NCORE ☐ SPM ☐ SPM/OPN ☐ NONREGULATORY

Probe inlet height (from ground) 2-15 m? Yes ☐ No ☐ Give actual measured height from ground (meters) _____

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☐

Actual measured distance from probe to supporting structure (meters) _____

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐

*Distance from probe to tree (m) _____ Direction from probe to tree ___

*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle ___

*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ CO (Micro Only)	☐ Highest Concentration_____ ☐ Population Exposure_____ ☐ Source Oriented_____ ☐ Transport_____ ☐ Welfare Related Impacts _____	☐ Micro_____	☐ SLAMS _____ ☐ SPM_____ ☐ SPM/OPN_____ ☐ NONREGULATORY

Probe inlet height (from ground) 2.5 - 3.5 m? Yes ☐ No ☐
Actual measured distance from probe inlet to ground (meters) _____

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☐
Actual measured distance from probe to supporting structure (meters) _____

Distance of probe inlet to nearest intersection > 10 m? Yes ☐ No ☐
Distance of probe inlet to nearest traffic lane 2 - 10 m? Yes ☐ No ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____Direction from probe to nearest traffic lane ___

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ NO_y (trace-level)	☐ General/Background_____ ☐ Highest Concentration_____ ☐ Max O3 Concentration_ ☐ Population Exposure_____ ☐ Source Oriented_____ ☐ Transport_____ ☐ Upwind Background_____ ☐ Welfare Related Impacts_____	☐ Micro_____ ☐ Middle_____ ☐ Neighborhood_____ ☐ Urban_____ ☐ Regional_____	☐ SLAMS _____ ☐ NCORE_____ ☐ SPM_____ ☐ SPM/OPN_____ ☐ NONREGULATORY

Probe inlet height (from ground) 10-15 m? Yes ☐ No ☐
Actual measured distance from probe inlet to ground (meters) _____

Distance of probe inlet from horizontal and/or vertical supporting structure > 1 m? Yes ☐ No ☐
Actual measured distance from probe to supporting structure (meters) _____

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ NO_2 (Near Road only) ☐ CO (Near Road only)	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport____ ☐ Welfare Related Impacts	☐ Micro____	☐ SLAMS ____ ☐ SPM____ ☐ NONREGULATORY ____

Probe inlet height (from ground) 2-15 m? Yes ☐ No ☐ Give actual measured height from ground (meters) ____

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☐

Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) ____ Direction from probe to tree ___
*Height of tree (m) ____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) ____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) ____ Direction from probe to nearest traffic lane ___

Parameters	Monitoring Objective	Scale	Site Type
☒ NA Air flow > 200 L/min ☐ PM10 ☐ TSP ☐ Pb	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Background____ ☐ Transport____ ☐ Welfare Related Impacts ____	☐ Micro____ ☐ Middle____ ☐ Neighborhood____ ☐ Urban____ ☐ Regional____	☐ SLAMS ____ ☐ NCORE____ ☐ SPM____ ☐ NONREGULATORY ____

Probe inlet height (from ground) ☐ < 2 m ____ ☐ 2-7m ____ ☐ 7-15 m ____ ☐ > 15 m____

Actual measured distance from probe inlet to ground (meters) ____

Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes ☐ No ☐

Actual measured distance from probe to supporting structure (meters) ____

Distance between collocated PM-10, TSP or Pb sampler inlets = 2 to 4 m? Yes ☐ No ☐ NA ☐

Actual measured distance between collocated probes (meters) ____

Distance between any high volume inlet and any other high or low volume inlet ≥ 2 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) ____ Direction from probe to tree ___
*Height of tree (m) ____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) ____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) ____ Direction from probe to nearest traffic lane ___

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☐ NA Air flow < 200 L/min ☒ PM2.5 ☐ PM10 ☐ PM10-2.5 ☐ PM10 Lead (PB) ☒ PM2.5 Cont. (TEOM) ☐ PM2.5 Cont. (BAM) ☐ PM2.5 Spec. (SASS) ☐ PM2.5 Spec. (URG) ☐ PM2.5 Cont. Spec.	☐ General/Background ☐ Highest Concentration ☒ Population Exposure ☐ Source Oriented ☐ Transport ☐ Upwind Background ☐ Welfare Related Impacts	☐ Micro ☐ Middle ☐ Neighborhood ☒ Urban ☐ Regional	☒ SLAMS PM 2.5 ☐ NCORE ☐ SPM ☒ NONREGULATORY TEOM

Probe inlet height (from ground) ☐ < 2 m ☒ 2-7m ☐ 7-15 m ☐ > 15 m
Actual measured distance from probe inlet to ground (meters) TEOM is 2.2m, FRM is 2.2m
Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes ☒ No ☐

Distance between inlets of any low volume monitor and any other low volume monitor at the site = 1 m or greater?	Yes ☒ No ☐ NA ☐
Distance between all low volume monitor inlets and any Hi-Volume PM-10 or TSP inlet = 2 m or greater?	Yes ☐ No ☐ NA ☒
Are collocated PM2.5 Monitors (Two FRMs, FRM & BAM, FRM & TEOM, BAM & TEOM) Located at Site?	*Yes ☒ (answer *'d questions) No ☐ NA ☐
*Distance between collocated PM 2.5 sampler inlets = 1 to 4 m?	Yes ☒ No ☐ Give actual (meters) 2.7m
*Are collocated PM2.5 sampler inlets within 1 m vertically of each other?	Yes ☒ No ☐ Give actual (meters) 0.0m
Is an URG 3000 monitor collocated with a SASS monitor at the site?	*Yes ☐ (answer *'d questions) No ☐ NA ☒
* Distance between collocated speciation sampler inlets = 1 to 4 m?	Yes ☐ No ☐ Give actual (meters) ____
* Are collocated speciation sampler inlets within 1 m vertically of each other?	Yes ☐ No ☐ Give actual (meters) ____
Is a low-volume PM10 monitor collocated with a PM2.5 monitor at the site to measure PM10-2.5?	*Yes ☐ (answer *'d questions) No ☐ NA ☒
*Distance between collocated PM10 and PM2.5 inlets for PM10-2.5 samplers = 1 to 4 m?	Yes ☐ No ☐
*Are collocated PM10 and PM2.5 sampler inlets within 1 m vertically of each other?	Yes ☐ No ☐

Is probe > 20 m from the nearest tree drip line? Yes ☒ *No ☐ (answer *'d questions)
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____
Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☒
*Identify obstacle ____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐
Distance of probe to nearest traffic lane (m) 145 Direction from probe to nearest traffic lane E

RECOMMENDATIONS:

1) Maintain current site status? Yes ☐ *No ☒ (answer *'d questions)
*2) Change monitoring objective? Yes ☐ (enter new objective _____) No ☒
*3) Change scale of representativeness? Yes ☒ (enter new scale Urban _____) No ☐
*4) Relocate site? Yes ☐ No ☒

Comments: _____

Reviewer Sandra Sherer Date January 5, 2012

Ambient Monitoring Coordinator D. W. Manning Date January 27, 2012

Revised 2012-01-30

Site Review Form Calendar Year 2011

Site Information

Region MRO	Site Name Monroe Middle School	AQS Site # 37- 179 - 0003
Street Address 701 Charles Street		City Monroe, NC
Urban Area MONROE	Core-based Statistical Area Charlotte-Gastonia-Concord, NC-SC	

Enter Exact		Method of Measuring	
Longitude W 80.5410	Latitude N 34.9738	Other (explain)	Explanation: Laptop Computer with GPS USB attachment and DeLorme Street Atlas Software
In Decimal Degrees	In Decimal Degrees		

Elevation Above/below Mean Sea Level (in meters) 179.5

Name of nearest road to inlet probe Charles Street ADT 3,500 Year 2009

Comments: Used http://www.ncdot.gov/travel/statemapping/trafficvolumemaps/. No count made in 2010 data

Distance of site to nearest major road (m) 1650.00 Direction from site to nearest major road ENE

Name of nearest major road Highway 74/601 ADT 45,000 Year 2010

Comments: Used http://www.ncdot.gov/travel/statemapping/trafficvolumemaps/

Site located near electrical substation/high voltage power lines? Yes ☐ No ☒

Distance of site to nearest railroad track	(m) 1057 Direction to RR N	☐NA
Distance of site to nearest power pole w/transformer	(m) 34.7 Direction NE	

Distance between site and drip line of water tower (m) _____ Direction from site to water tower _____ ☒NA

Explain any sources of potential bias; include cultivated fields, loose bulk storage, stacks, vents, railroad tracks, construction activities, fast food restaurants, and swimming pools.

None noted at the time of site review.

ANSWER ALL APPLICABLE QUESTIONS:

Parameters	Monitoring Objective	Scale	Site Type
☐NA ☐ SO_2 (NAAQS) ☐ SO_2 (trace-level) ☐ NO_y (NAAQS) ☐ $HSNO_y$ ☒ O_3 ☐ NH_3 ☐ Hydrocarbon ☐ Air Toxics ☐ HSCO (Not Micro) ☐ CO (trace-level)	☐General/Background ☐Highest Concentration ☐Max O3 Concentration ☒Population Exposure ☐Source Oriented ☐Transport ☐Upwind Background ☐Welfare Related Impacts	☐Micro ☐Middle ☒Neighborhood ☐Urban ☐Regional	☐SLAMS ☐NCORE ☒SPM ☐SPM/OPN ☐NONREGULATORY

Probe inlet height (from ground) 2-15 m? Yes ☒ No ☐ Give actual measured height from ground (meters) 3.9

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☒ No ☐

Actual measured distance from probe to supporting structure (meters) 1

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☒

Is probe > 20 m from the nearest tree drip line? Yes ☒ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐

*Distance from probe to tree (m) _____ Direction from probe to tree ___

*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☒

*Identify obstacle ____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle ___

*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) 71.3 Direction from probe to nearest traffic lane W

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ CO (Micro Only)	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport_____ ☐ Welfare Related Impacts ____	☐ Micro____	☐ SLAMS _____ ☐ SPM_____ ☐ SPM/OPN____ ☐ NONREGULATORY

Probe inlet height (from ground) 2.5 - 3.5 m? Yes ☐ No ☐
Actual measured distance from probe inlet to ground (meters) ____

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☐
Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet to nearest intersection > 10 m? Yes ☐ No ☐
Distance of probe inlet to nearest traffic lane 2 - 10 m? Yes ☐ No ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____Direction from probe to nearest traffic lane ___

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ NO_y (trace-level)	☐ General/Background_____ ☐ Highest Concentration_____ ☐ Max O3 Concentration_ ☐ Population Exposure_____ ☐ Source Oriented_____ ☐ Transport_____ ☐ Upwind Background_____ ☐ Welfare Related Impacts _____	☐ Micro_____ ☐ Middle_____ ☐ Neighborhood_____ ☐ Urban_____ ☐ Regional_____	☐ SLAMS _____ ☐ NCORE_____ ☐ SPM_____ ☐ SPM/OPN_____ ☐ NONREGULATORY

Probe inlet height (from ground) 10-15 m? Yes ☐ No ☐
Actual measured distance from probe inlet to ground (meters) ____

Distance of probe inlet from horizontal and/or vertical supporting structure > 1 m? Yes ☐ No ☐
Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ NO_2 (Near Road only) ☐ CO (Near Road only)	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport____ ☐ Welfare Related Impacts	☐ Micro____	☐ SLAMS ____ ☐ SPM____ ☐ NONREGULATORY ____

Probe inlet height (from ground) 2-15 m? Yes ☐ No ☐ Give actual measured height from ground (meters) ____

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☐

Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐

*Distance from probe to tree (m) ____ Direction from probe to tree ___

*Height of tree (m) ____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) ____Direction from probe inlet to obstacle ___

*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) ____ Direction from probe to nearest traffic lane ___

Parameters	Monitoring Objective	Scale	Site Type
☒ NA Air flow > 200 L/min ☐ PM10 ☐ TSP ☐ Pb	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Background____ ☐ Transport____ ☐ Welfare Related Impacts ____	☐ Micro____ ☐ Middle____ ☐ Neighborhood____ ☐ Urban____ ☐ Regional____	☐ SLAMS ____ ☐ NCORE____ ☐ SPM____ ☐ NONREGULATORY ____

Probe inlet height (from ground) ☐ < 2 m ____ ☐ 2-7m ____ ☐ 7-15 m ____ ☐ > 15 m____

Actual measured distance from probe inlet to ground (meters) ____

Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes ☐ No ☐

Actual measured distance from probe to supporting structure (meters) ____

Distance between collocated PM-10, TSP or Pb sampler inlets = 2 to 4 m? Yes ☐ No ☐ NA ☐

Actual measured distance between collocated probes (meters) ____

Distance between any high volume inlet and any other high or low volume inlet ≥ 2 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐

*Distance from probe to tree (m) ____ Direction from probe to tree ___

*Height of tree (m) ____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) ____Direction from probe inlet to obstacle ___

*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) ____ Direction from probe to nearest traffic lane ___

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA Air flow < 200 L/min ☐ PM2.5 ☐ PM10 ☐ PM10-2.5 ☐ PM10 Lead (PB) ☐ PM2.5 Cont. (TEOM) ☐ PM2.5 Cont. (BAM) ☐ PM2.5 Spec. (SASS) ☐ PM2.5 Spec. (URG) ☐ PM2.5 Cont. Spec.	☐ General/Background____ ☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport____ ☐ Upwind Background____ ☐ Welfare Related Impacts ____	☐ Micro____ ☐ Middle____ ☐ Neighborhood____ ☐ Urban____ ☐ Regional____	☐ SLAMS ____ ☐ NCORE____ ☐ SPM____ ☐ NONREGULATORY ____

Probe inlet height (from ground) ☐ < 2 m ____ ☐ 2-7m ____ ☐ 7-15 m ____ ☐ > 15 m____
Actual measured distance from probe inlet to ground (meters) ____

Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes ☐ No ☐____

Distance between inlets of any low volume monitor and any other low volume monitor at the site = 1 m or greater? Yes ☐ No ☐ NA ☐

Distance between all low volume monitor inlets and any Hi-Volume PM-10 or TSP inlet = 2 m or greater? Yes ☐ No ☐ NA ☐

Are collocated PM2.5 Monitors (Two FRMs, FRM & BAM, FRM & TEOM, BAM & TEOM) Located at Site? *Yes ☐ (answer *'d questions) No ☐ NA ☐

*Distance between collocated PM 2.5 sampler inlets = 1 to 4 m? Yes ☐ No ☐ Give actual (meters) ____

*Are collocated PM2.5 sampler inlets within 1 m vertically of each other? Yes ☐ No ☐ Give actual (meters) ____

Is an URG 3000 monitor collocated with a SASS monitor at the site? *Yes ☐ (answer *'d questions) No ☐ NA ☐

* Distance between collocated speciation sampler inlets = 1 to 4 m? Yes ☐ No ☐ Give actual (meters) ____

* Are collocated speciation sampler inlets within 1 m vertically of each other? Yes ☐ No ☐ Give actual (meters) ____

Is a low-volume PM10 monitor collocated with a PM2.5 monitor at the site to measure PM10-2.5? *Yes ☐ (answer *'d questions) No ☐ NA ☐

*Distance between collocated PM10 and PM2.5 inlets for PM10-2.5 samplers = 1 to 4 m? Yes ☐ No ☐

*Are collocated PM10 and PM2.5 sampler inlets within 1 m vertically of each other? Yes ☐ No ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐

*Distance from probe to tree (m) _____ Direction from probe to tree ___

*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___

*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

RECOMMENDATIONS:

1) Maintain current site status? Yes ☒ *No ☐ (answer *'d questions)

*2) Change monitoring objective? Yes ☐ (enter new objective _____) No ☐-

*3) Change scale of representativeness? Yes ☐ (enter new scale _____) No ☐

*4) Relocate site? Yes ☐ No ☐

Comments:

Reviewer Paul Chappin Date December 20, 2011

Ambient Monitoring Coordinator D. W. Manning Date January 25, 2012

Revised 2012-01-30

Site Review Form Calendar Year 2011

Site Information

Region MRO	**Site Name** Enochville	**AQS Site #** 37- 159 - 0022
Street Address 925 North Enochville Ave		**City** Enochville
Urban Area Not in an Urban Area	**Core-based Statistical Area** Salisbury, NC	

Enter Exact		**Method of Measuring**	
Longitude W 80.66759	**Latitude** N 35.53449		
In Decimal Degrees	In Decimal Degrees	**GPS**	**Explanation: Mapping**
Elevation Above/below Mean Sea Level (in meters)		264	

Name of nearest road to inlet probe Enochville School Rd. ADT 1700 Year 2008

Comments: _____

Distance of site to nearest major road (m) 180 Direction from site to nearest major road E

Name of nearest major road North Enochville Ave. ADT 7500 Year 2010

Comments: _____

Site located near electrical substation/high voltage power lines?	Yes ☒ No ☐
Distance of site to nearest railroad track	(m) 4800 Direction to RR E ☐NA
Distance of site to nearest power pole w/transformer	(m) 23 Direction SE

Distance between site and drip line of water tower (m) _____ Direction from site to water tower _____ ☒NA

Explain any sources of potential bias; include cultivated fields, loose bulk storage, stacks, vents, railroad tracks, construction activities, fast food restaurants, and swimming pools.

High voltage power lines 143.5 m to north.

ANSWER ALL APPLICABLE QUESTIONS:

Parameters	Monitoring Objective	Scale	Site Type
☐ NA ☐ SO_2 (NAAQS) ☐ SO_2 (trace-level) ☐ NO_x (NAAQS) ☐ $HSNO_y$ ☒ O_3 ☐ NH_3 ☐ Hydrocarbon ☐ Air Toxics ☐ HSCO (Not Micro) ☐ CO (trace-level)	☐ General/Background ☒ Highest Concentration ☐ Max O3 Concentration ☐ Population Exposure ☐ Source Oriented ☐ Transport ☐ Upwind Background ☐ Welfare Related Impacts	☐ Micro ☐ Middle ☐ Neighborhood ☒ Urban ☐ Regional	☐ SLAMS ☐ NCORE ☒ SPM ☐ SPM/OPN ☐ NONREGULATORY

Probe inlet height (from ground) 2-15 m? Yes ☒ No ☐ Give actual measured height from ground (meters) 3.67

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☒ No ☐

Actual measured distance from probe to supporting structure (meters) 1.05

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☒

Is probe > 20 m from the nearest tree drip line? Yes ☒ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐

*Distance from probe to tree (m) _____ Direction from probe to tree ___

*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☒

*Identify obstacle ___ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle ___

*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) 31 Direction from probe to nearest traffic lane S

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ CO (Micro Only)	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport_____ ☐ Welfare Related Impacts ____	☐ Micro____	☐ SLAMS _____ ☐ SPM_____ ☐ SPM/OPN____ ☐ NONREGULATORY

Probe inlet height (from ground) 2.5 - 3.5 m? Yes ☐ No ☐
Actual measured distance from probe inlet to ground (meters) ____

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☐
Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet to nearest intersection > 10 m? Yes ☐ No ☐
Distance of probe inlet to nearest traffic lane 2 - 10 m? Yes ☐ No ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____Direction from probe to nearest traffic lane ___

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ NO_y (trace-level)	☐ General/Background_____ ☐ Highest Concentration_____ ☐ Max O3 Concentration_ ☐ Population Exposure_____ ☐ Source Oriented_____ ☐ Transport_____ ☐ Upwind Background_____ ☐ Welfare Related Impacts _____	☐ Micro_____ ☐ Middle_____ ☐ Neighborhood_____ ☐ Urban_____ ☐ Regional_____	☐ SLAMS _____ ☐ NCORE_____ ☐ SPM_____ ☐ SPM/OPN_____ ☐ NONREGULATORY

Probe inlet height (from ground) 10-15 m? Yes ☐ No ☐
Actual measured distance from probe inlet to ground (meters) ____

Distance of probe inlet from horizontal and/or vertical supporting structure > 1 m? Yes ☐ No ☐
Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ NO_2 (Near Road only) ☐ CO (Near Road only)	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport____ ☐ Welfare Related Impacts	☐ Micro____	☐ SLAMS ____ ☐ SPM____ ☐ NONREGULATORY ____

Probe inlet height (from ground) 2-15 m? Yes ☐ No ☐ Give actual measured height from ground (meters) ____

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☐

Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) ____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

Parameters	Monitoring Objective	Scale	Site Type
☒ NA Air flow > 200 L/min ☐ PM10 ☐ TSP ☐ Pb	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Background____ ☐ Transport____ ☐ Welfare Related Impacts ____	☐ Micro____ ☐ Middle____ ☐ Neighborhood____ ☐ Urban____ ☐ Regional____	☐ SLAMS ____ ☐ NCORE____ ☐ SPM____ ☐ NONREGULATORY ____

Probe inlet height (from ground) ☐ < 2 m ____ ☐ 2-7m ____ ☐ 7-15 m ____ ☐ > 15 m____

Actual measured distance from probe inlet to ground (meters) ____

Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes ☐ No ☐

Actual measured distance from probe to supporting structure (meters) ____

Distance between collocated PM-10, TSP or Pb sampler inlets = 2 to 4 m? Yes ☐ No ☐ NA ☐

Actual measured distance between collocated probes (meters) ____

Distance between any high volume inlet and any other high or low volume inlet ≥ 2 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) ____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA Air flow < 200 L/min ☐ PM2.5 ☐ PM10 ☐ PM10-2.5 ☐ PM10 Lead (PB) ☐ PM2.5 Cont. (TEOM) ☐ PM2.5 Cont. (BAM) ☐ PM2.5 Spec. (SASS) ☐ PM2.5 Spec. (URG) ☐ PM2.5 Cont. Spec.	☐ General/Background____ ☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport____ ☐ Upwind Background____ ☐ Welfare Related Impacts ____	☐ Micro____ ☐ Middle____ ☐ Neighborhood____ ☐ Urban____ ☐ Regional____	☐ SLAMS ____ ☐ NCORE____ ☐ SPM____ ☐ NONREGULATORY ____

Probe inlet height (from ground) ☐ < 2 m ____ ☐ 2-7m ____ ☐ 7-15 m ____ ☐ > 15 m____
Actual measured distance from probe inlet to ground (meters) ____

Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes ☐ No ☐____

Distance between inlets of any low volume monitor and any other low volume monitor at the site = 1 m or greater? Yes ☐ No ☐ NA ☐

Distance between all low volume monitor inlets and any Hi-Volume PM-10 or TSP inlet = 2 m or greater? Yes ☐ No ☐ NA ☐

Are collocated PM2.5 Monitors (Two FRMs, FRM & BAM, FRM & TEOM, BAM & TEOM) Located at Site? *Yes ☐ (answer *'d questions) No ☐ NA ☐

*Distance between collocated PM 2.5 sampler inlets = 1 to 4 m? Yes ☐ No ☐ Give actual (meters) ____

*Are collocated PM2.5 sampler inlets within 1 m vertically of each other? Yes ☐ No ☐ Give actual (meters) ____

Is an URG 3000 monitor collocated with a SASS monitor at the site? *Yes ☐ (answer *'d questions) No ☐ NA ☐

* Distance between collocated speciation sampler inlets = 1 to 4 m? Yes ☐ No ☐ Give actual (meters) ____

* Are collocated speciation sampler inlets within 1 m vertically of each other? Yes ☐ No ☐ Give actual (meters) ____

Is a low-volume PM10 monitor collocated with a PM2.5 monitor at the site to measure PM10-2.5? *Yes ☐ (answer *'d questions) No ☐ NA ☐

*Distance between collocated PM10 and PM2.5 inlets for PM10-2.5 samplers = 1 to 4 m? Yes ☐ No ☐

*Are collocated PM10 and PM2.5 sampler inlets within 1 m vertically of each other? Yes ☐ No ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐

*Distance from probe to tree (m) _____ Direction from probe to tree ___

*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___

*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

RECOMMENDATIONS:

1) Maintain current site status? Yes ☒ *No ☐ (answer *'d questions)

*2) Change monitoring objective? Yes ☐ (enter new objective _____) No ☐

*3) Change scale of representativeness? Yes ☐ (enter new scale _____) No ☐

*4) Relocate site? Yes ☐ No ☐

Comments: _____

Reviewer Sandra Sherer Date January 4, 2012

Ambient Monitoring Coordinator D. W. Manning Date January 25, 2012

Revised 2012-01-30

Site Review Form Calendar Year 2011

Site Information

Region MRO	**Site Name** Rockwell	**AQS Site # 37-**159**-**0021
Street Address-316 West Street		**City**Rockwell
Urban Area Not in an Urban Area	**Core-based Statistical Area Salisbury, NC**	

Enter Exact			
Longitude W 80.3952	**Latitude** N 35.5519	**Method of Measuring**	
In Decimal Degrees	In Decimal Degrees	**GPS**	**Explanation: Mapping**

Elevation Above/below Mean Sea Level (in meters) **222**

Name of nearest road to inlet probe Gold Hill Road ADT _____ Year _____

Comments: City Maintained Street. No Traffic Count.

Distance of site to nearest major road (m) 483.00 Direction from site to nearest major road SW

Name of nearest major road Highway 52 ADT 12000 Year 2010

Comments: _____

Site located near electrical substation/high voltage power lines? Yes ☐ No ☒

Distance of site to nearest railroad track	(m) 737 Direction to RR SW ☐NA
Distance of site to nearest power pole w/transformer	(m) 39 Direction NW

Distance between site and drip line of water tower (m) _____ Direction from site to water tower _____ ☒NA

Explain any sources of potential bias; include cultivated fields, loose bulk storage, stacks, vents, railroad tracks, construction activities, fast food restaurants, and swimming pools.

_____

ANSWER ALL APPLICABLE QUESTIONS:

Parameters	Monitoring Objective	Scale	Site Type
☐NA ☐ SO_2 (NAAQS) ☐ SO_2 (trace-level) ☐ NO_y (NAAQS) ☒$HSNO_y$ ☒ O_3 ☐ NH_3 ☒ Hydrocarbon ☐ Air Toxics ☒ HSCO (Not Micro) ☐ CO (trace-level)	☐General/Background_____ ☒Highest ConcentrationO3 ☒Max O3 Concentration HSNOy, HSCO, Hydrocarbon ☐Population Exposure_____ ☐Source Oriented_____ ☐Transport_____ ☐Upwind Background_____ ☐Welfare Related Impacts _____	☐Micro_____ ☐Middle_____ ☐Neighborhood_____ ☒UrbanHSNOy, HSCO, Hydrocarbon, O3_____ ☐Regional_____	☐SLAMS _____ ☐NCORE_____ ☐SPM_____ ☒SPM/OPN O3. ☒NONREGULATORY HSNOy, HSCO, Hydrocarbon,____

Probe inlet height (from ground) 2-15 m? Yes ☒ No ☐ Give actual measured height from ground (meters)
HSNOy is 5.0m, O3 is 3.6m, Hydrocarbon is 3.5m, HSCO is 3.5m.

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☒ No ☐
Actual measured distance from probe to supporting structure (meters) 1.1

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☒ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☒ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☒ *No ☐

*Distance from probe to tree (m) 14.3 Direction from probe to tree ESE

*Height of tree (m) 19.9

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☒

*Identify obstacle ____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle ___

*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) 17 Direction from probe to nearest traffic lane N

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ CO (Micro Only)	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport_____ ☐ Welfare Related Impacts ____	☐ Micro____	☐ SLAMS _____ ☐ SPM_____ ☐ SPM/OPN____ ☐ NONREGULATORY

Probe inlet height (from ground) 2.5 - 3.5 m? Yes ☐ No ☐
Actual measured distance from probe inlet to ground (meters) ____

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☐
Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet to nearest intersection > 10 m? Yes ☐ No ☐
Distance of probe inlet to nearest traffic lane 2 - 10 m? Yes ☐ No ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____Direction from probe to nearest traffic lane ___

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ NO_y (trace-level)	☐ General/Background_____ ☐ Highest Concentration_____ ☐ Max O3 Concentration_ ☐ Population Exposure_____ ☐ Source Oriented_____ ☐ Transport_____ ☐ Upwind Background_____ ☐ Welfare Related Impacts _____	☐ Micro_____ ☐ Middle_____ ☐ Neighborhood_____ ☐ Urban_____ ☐ Regional_____	☐ SLAMS _____ ☐ NCORE_____ ☐ SPM_____ ☐ SPM/OPN_____ ☐ NONREGULATORY

Probe inlet height (from ground) 10-15 m? Yes ☐ No ☐
Actual measured distance from probe inlet to ground (meters) ____

Distance of probe inlet from horizontal and/or vertical supporting structure > 1 m? Yes ☐ No ☐
Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) _____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ___

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☒ NA ☐ NO_2 (Near Road only) ☐ CO (Near Road only)	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Transport____ ☐ Welfare Related Impacts	☐ Micro____	☐ SLAMS ____ ☐ SPM____ ☐ NONREGULATORY ____

Probe inlet height (from ground) 2-15 m? Yes ☐ No ☐ Give actual measured height from ground (meters) ____

Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes ☐ No ☐

Actual measured distance from probe to supporting structure (meters) ____

Distance of probe inlet from other monitoring probe inlets > 1 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) ____ Direction from probe to tree ___
*Height of tree (m) ____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) ____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) ____ Direction from probe to nearest traffic lane ___

Parameters	Monitoring Objective	Scale	Site Type
☒ NA Air flow > 200 L/min ☐ PM10 ☐ TSP ☐ Pb	☐ Highest Concentration____ ☐ Population Exposure____ ☐ Source Oriented____ ☐ Background____ ☐ Transport____ ☐ Welfare Related Impacts ____	☐ Micro____ ☐ Middle____ ☐ Neighborhood____ ☐ Urban____ ☐ Regional____	☐ SLAMS ____ ☐ NCORE____ ☐ SPM____ ☐ NONREGULATORY ____

Probe inlet height (from ground) ☐ < 2 m ____ ☐ 2-7m ____ ☐ 7-15 m ____ ☐ > 15 m____

Actual measured distance from probe inlet to ground (meters) ____

Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes ☐ No ☐

Actual measured distance from probe to supporting structure (meters) ____

Distance between collocated PM-10, TSP or Pb sampler inlets = 2 to 4 m? Yes ☐ No ☐ NA ☐

Actual measured distance between collocated probes (meters) ____

Distance between any high volume inlet and any other high or low volume inlet ≥ 2 m? Yes ☐ No ☐ NA ☐

Is probe > 20 m from the nearest tree drip line? Yes ☐ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) ____ Direction from probe to tree ___
*Height of tree (m) ____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☐

*Identify obstacle ____ Distance from probe inlet (m) ____Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) ____ Direction from probe to nearest traffic lane ___

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
☐ NA Air flow < 200 L/min ☒ PM2.5 ☐ PM10 ☐ PM10-2.5 ☐ PM10 Lead (PB) ☒ PM2.5 Cont. (TEOM) ☐ PM2.5 Cont. (BAM) ☒ PM2.5 Spec. (SASS) ☒ PM2.5 Spec. (URG) ☒ PM2.5 Cont. Spec.	☐ General/Background ☐ Highest Concentration ☒ Population Exposure ☐ Source Oriented ☐ Transport ☐ Upwind Background ☐ Welfare Related Impacts	☐ Micro ☐ Middle ☒ Neighborhood ☐ Urban ☐ Regional	☒ SLAMS PM2.5 ☐ NCORE ☐ SPM ☒ NONREGULATORY PM2.5 Cont. (TEOM), PM2.5 Spec. (SASS), PM2.5 Spec. (URG), PM2.5 Cont. Spec. (aethalometer), PM2.5 Cont. Spec. (8400N)

Probe inlet height (from ground) ☒ < 2 m SASS ☒ 2-7m PM2.5, TEOM, URG ☐ 7-15 m ☐ > 15 m
Actual measured distance from probe inlet to ground (meters) PM2.5 is 2.4m, TEOM is 4.5m, SASS is 1.9m, URG is 2.3m.

Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes ☒ No ☐

Distance between inlets of any low volume monitor and any other low volume monitor at the site = 1 m or greater?	Yes ☒ No ☐ NA ☐
Distance between all low volume monitor inlets and any Hi-Volume PM-10 or TSP inlet = 2 m or greater?	Yes ☐ No ☐ NA ☒
Are collocated PM2.5 Monitors (Two FRMs, FRM & BAM, FRM & TEOM, BAM & TEOM) Located at Site?	*Yes ☒ (answer *'d questions) No ☐ NA ☐
*Distance between collocated PM 2.5 sampler inlets = 1 to 4 m?	Yes ☒ No ☐ Give actual (meters) 2.2
*Are collocated PM2.5 sampler inlets within 1 m vertically of each other?	Yes ☒ No ☐ Give actual (meters) 0.17
Is an URG 3000 monitor collocated with a SASS monitor at the site?	*Yes ☒ (answer *'d questions) No ☐ NA ☐
* Distance between collocated speciation sampler inlets = 1 to 4 m?	Yes ☒ No ☐ Give actual (meters) 2.7
* Are collocated speciation sampler inlets within 1 m vertically of each other?	Yes ☒ No ☐ Give actual (meters) 0.3
Is a low-volume PM10 monitor collocated with a PM2.5 monitor at the site to measure PM10-2.5?	*Yes ☐ (answer *'d questions) No ☐ NA ☒
*Distance between collocated PM10 and PM2.5 inlets for PM10-2.5 samplers = 1 to 4 m?	Yes ☐ No ☐
*Are collocated PM10 and PM2.5 sampler inlets within 1 m vertically of each other?	Yes ☐ No ☐

Is probe > 20 m from the nearest tree drip line? Yes ☒ *No ☐ (answer *'d questions)

*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes ☐ *No ☐
*Distance from probe to tree (m) _____ Direction from probe to tree ___
*Height of tree (m) _____

Are there any obstacles to air flow? *Yes ☐ (answer *'d questions) No ☒

*Identify obstacle ___ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle ___
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes ☐ No ☐

Distance of probe to nearest traffic lane (m) 26 Direction from probe to nearest traffic lane N

RECOMMENDATIONS:

1) Maintain current site status? Yes ☒ *No ☐ (answer *'d questions)
*2) Change monitoring objective? Yes ☐ (enter new objective _____) No ☐
*3) Change scale of representativeness? Yes ☐ (enter new scale _____) No ☐
*4) Relocate site? Yes ☐ No ☐

Comments: _____

Reviewer Robert Jay Papuga Date December 8, 2011

Ambient Monitoring Coordinator D. W. Manning Date January 27, 2012

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Appendix C-2. Scale of Representativeness

Each station in the monitoring network must be described in terms of the physical dimensions of the air parcel nearest the monitoring station throughout which actual pollutant concentrations are reasonably similar. Area dimensions or scales of representativeness used in the network description are:

a) Microscale - defines the concentration in air volumes associated with area dimensions ranging from several meters up to about 100 meters.

b) Middle scale - defines the concentration typical of areas up to several city blocks in size with dimensions ranging from about 100 meters to 0.5 kilometers.

c) Neighborhood scale – defines concentrations within an extended area of a city that has relatively uniform land use with dimensions ranging from about 0.5 to 4.0 kilometers.

d) Urban scale - defines an overall citywide condition with dimensions on the order of 4 to 50 kilometers.

e) Regional Scale - defines air quality levels over areas having dimensions of 50 to hundreds of kilometers.

Closely associated with the area around the monitoring station where pollutant concentrations are reasonably similar are the basic monitoring exposures of the station.

There are six basic exposures:

a) Sites located to determine the highest concentrations expected to occur in the area covered by the network.

b) Sites located to determine representative concentrations in areas of high population density.

c) Sites located to determine the impact on ambient pollution levels of significant sources or source categories.

d) Sites located to determine general background concentration levels.

e) Sites located to determine the extent of regional pollutant transport among populated areas.

f) Sites located to measure air pollution impacts on visibility, vegetation damage, or other welfare-based impacts and in support of secondary standards.

The design intent in siting stations is to correctly match the area dimensions represented by the sample of monitored air with the area dimensions most appropriate for the monitoring objective of the station. The following relationship of the six basic objectives and the scales of representativeness are appropriate when siting monitoring stations:

Table C7. Site Type Appropriate Siting Scales

1. Highest concentration	Micro, middle, neighborhood (sometimes urban or regional for secondarily formed pollutants)
2. Population oriented	Neighborhood, urban
3. Source impact	Micro, middle, neighborhood
4. General/background & regional transport	Urban, regional
5. Welfare-related impacts	Urban, regional